DOCUMENT RESUME

ED 341 294 FL 800 438

AUTHOR Wilcox, Wilma B.
TITLE The Predictive Validity of the Wide Range Achievement Test and Achievement Scores of ESOL Adults.
PUB DATE 91
NOTE 76p.; Master's project, University of Kansas. Appended material may not reproduce well.
PUB TYPE Dissertations/Theses - Masters Theses (042) -- Reports - Research/Technical (143) -- Tests/Evaluation Instruments (160)

EDRS PRICE MF01/PC04 Plus Postage.
DESCRIPTORS *Achievement Tests; Adult Education; Adult Students; Comparative Analysis; *English (Second Language); Language Proficiency; *Language Tests; *Limited English Speaking; Postsecondary Education; *Predictive Validity; *Student Placement
IDENTIFIERS Basic English Skills Test; Real Life English Placement Survey; *Wide Range Achievement Test

ABSTRACT

The need in adult education English-for-Speakers-of-Other-Languages (ESOL) classes for a simple, effective placement measure that is inexpensive in terms of both cost and time is noted, and results of a study of the predictive validity of the Wide Range Achievement Test (WRAT) on the achievement scores of adult ESOL students are reported. The WRAT is regularly used in the Johnson County Community College district in Kansas, where this study was conducted among 169 students representing a variety of ages, nationalities, and previous levels of education. Four subtests of the WRAT, Level I and II Reading and Level I and II Spelling, were administered and measured for predictive ability against the achievement shown on the Basic English Skills Test (BEST) and the Real-Life English Placement Survey. Results indicated that the WRAT has more than face validity and can be considered an adequate predictor of placement levels for ESOL students. Because this test appears to evaluate only the speaking or barking (reading without understanding) aspect of word attack skills in reading, it is recommended that the testing be augmented with function-activity testing, behaviorally anchored to the instructional materials. Seven appendices contain sections of the WRAT test, the BEST test, the Real-Life English Placement Survey, and item analyses for WRAT-I Reading and BEST. Contains 24 references. (Adjunct ERIC Clearinghouse on Literacy Education) (LB)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED341294

THE PREDICTIVE VALIDITY OF THE WIDE RANGE ACHIEVEMENT TEST AND ACHIEVEMENT SCORES OF ESOL ADULTS

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

Wilma Wilcox

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☑ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

WILMA B. WILCOX
MASTER'S PROJECT
SCHOOL OF EDUCATION
C&I TESOL
UNIVERSITY OF KANSAS
LAWRENCE, KANSAS
FALL 1991

FL 800438

BEST COPY AVAILABLE

THE PREDICTIVE VALIDITY OF THE WIDE RANGE ACHIEVEMENT TEST AND ACHIEVEMENT SCORES OF ESOL ADULTS

WILMA B. WILCOX
MASTER'S PROJECT
SCHOOL OF EDUCATION
C&I TESOL
UNIVERSITY OF KANSAS
LAWRENCE, KANSAS
FALL 1991

I wish to acknowledge the advice and direction given to me during the research on this master's project by Dr. Paul Markham, associate professor and director of the TESOL program, Curriculum and Instruction, School of Education; Dr. O. Dean Gregory, assistant professor in the Linguisitics Department and associate director of the Applied English Center; Dr. Diane Nielson, assistant professor and reading specialist, Curriculum and Instruction, School of Education; all at the University of Kansas, and Phil Wegman, program director of Developmental Education/ Community Outreach at Johnson County Community College.

Special thanks go to Carolyn Heacock, language specialist, Applied English Center; E. P. Johnsen, professor, Educational Psychology and Research; and Henry Wigington, program associate, Testing Services, University Counseling Center, all at the University of Kansas, who helped me with the proposal and the statistical analysis of data.

This project could not have been completed without the help of the ESOL instructors in the non-credit continuing education classes at Johnson County Community College: Bruce and Laura Inwards, Patricia Klausner, Mary Noury, Marthel Trekell, and Aiko Uyeki. Additional thanks to the volunteer coordinator Susan McCabe and all the volunteers who helped us with the testing.

CHAPTER ONE

INTRODUCTION

There is a need in adult education ESOL (English for Speakers of Other Languages) classes for a simple, effective placement measure that is inexpensive in terms of both cost and time.

The adult education ESOL program in the Johnson County Community College district in Kansas regularly uses the Wide Range Achievement Test (WRAT) for placement of students in nominal clusters labeled: Pre-Beginning, Beginning, Intermediate, and Advanced. The students are generally tested and advised on placement after a five-minute oral examination by a trained volunteer while the first class is in session. Additional testing to verify correct placement in an assigned class level includes other achievement tests, basic education inventories, reading diagnostic tests and textbook chapter exams as selected by the teacher.

The Wide Range Achievement Test was introduced by Jastak in 1936 as a convenient tool for reading word recognition and pronunciation, written spelling, and arithmetic computation. The WRAT apparently satisfied an important need, as its use became widespread in both the United States and abroad in a relatively short time. It has been revised five times since 1936. The authors state that it measures sensory-motor and coding skills involved in learning to read, spell, write, and figure. (Jastak, 1978)

The Wide Range Achievement Test is widely used as a quick placement test of basic ability in English. The oral portion of the test is referred to as a reading test which measures the ability to read by requiring the students to decode and pronounce a list of words of increasing difficulty (probably because of less frequent use in English) and translates that score to a reading grade level. The spelling test measures listening and writing ability in English, and in this portion the words are pronounced by the teacher in the context of a sentence.

Reviewers in the most recent Mental Measurements Yearbooks have expressed concern at the lack of valid psychometrics for the WRAT. (Matuszek 1985, Saigh 1985, Clarke 1989, Harrison 1989) However, the authors of the test claim a high degree of validity and reliability based on numerous tests they have conducted. (Jastak 1978) See Appendix Table I. The means and standard deviations of the WRAT are compared with two other major tests. Intercorrelations between the WRAT subtest are given for 200 students. Reliability coefficient for WRAT-I Reading is stated as $r>.98$.

Even though the WRAT has been standardized with adult populations to age 74, there appears to be no research that involves WRAT predictive validity with adult ESOL students as an identified group. Some research exists using the WRAT with a variety of disabled adults, but ESOL adults can hardly be described as disabled. Many have acquired a good education in their native language which can be expected to aid the language acquisition process in English.

A question is raised concerning the predictive validity of the Wide Range Achievement Test on the achievement scores of adult students in ESOL classes. Predictive validity is the ability of the test instrument to give information on the likelihood of success in a course, and this information will aid in the placement of students at levels of instruction from which they will receive the most benefit.

CHAPTER TWO

REVIEW OF LITERATURE

In language testing, it is generally agreed that four areas to be measured include: listening, speaking, reading and writing. Tests generally measure comprehension and productive communication using these four skills.

Behavioral Anchoring to Objectives:

One of the most useful procedures in testing is to anchor each item to the objectives desired as outcomes for the instruction in ESOL classes. Brown (1989) studied 61 mostly-Asian students at the University of Hawaii and found serious mismatches in placement on a test-retest procedure using norm-referenced and criterion-referenced item analyses statistics. He said placement was needed for homogeneous language-ability groupings and norm-referenced tests should reflect the population intended. Testing based on behavioral descriptors for each placement level would result in a better match for class placement. (Brown 1989, pp. 65-83).

Another study of behavioral anchoring was conducted by Perkins and Brutten in 1988 with three ESL reading comprehension tests. They studied 113 non-native speakers of English enrolled at Southern Illinois University. Subjects were chosen by a natural assembly process. They used the following definition:

> Behavioral anchoring, a procedure recently developed by the National Assessment of Educational Progress, describes what students at different anchor points on the ability/proficiency continuum can do that students at lower anchor points cannot do. (Perkins and Brutten 1988, p. 607)

Major constructs were the relationship of each item on the test to the basic goals of the entire test, the reader's prior knowledge, and the cognitive processes required to answer the question. TOEFL (Test of English as a Foreign Language) scores were used for initial grouping, and reading comprehension exams were analyzed in relation to the three constructs. The results indicated a "criterion-referenced interpretation of ability levels on a proficiency continuum." (Perkins and Brutten 1988, pp. 607-621)

Single Language Dimension:

One study of 50 advanced adult learners identified a single language dimension, the unitary factor hypothesis of language proficiency. The subject pool included the native languages of Spanish, Arabic, Chinese, Japanese, Korean, Malaysian, Thai, Greek, Tamil, Polish, French and Yoruba. The authors identified auditory factors and memory span and recognized a 7-8 syllable threshold for ESL (English as a Second Language) subjects. (Perkins et al.,1985, pp. 89-95) If the single language factor exists, then it can be measured and proficiency can also be measured.

The use of the cloze procedure or dictation in language testing was studied by Stump (1978) with 204 elementary students and the results seem to also support the global language proficiency factor as

a single unitary factor. As predictors of language proficiency, cloze and dictation both function to identify this global language proficiency.

Jonz (1990) analyzed eight cloze passages used in published tests. He felt the cloze procedure was sensitive to constraints on response well beyond local syntax and that the comprehension processes of nonnative speakers relied heavily on textual cohesion. As a test of comprehension, he stated the cloze procedure was easy to constuct using a fixed-ratio of deletions and it challenged the language knowledge of the student in fixed predictive ways.

Studies of Language Tests

Graham (1987) reminds us that there may never be a single, ideal test and that the necessary level of English proficiency will vary according to the program a student enters and to other-than-English proficiency factors that the student brings to academic pursuits. In her study with the TOEFL (Test of English as a Foreign Language) and the MTELP (Michigan Test of English Language Proficiency) using the correlation coefficients between English proficiency and first-semester grade point averages, she found negative and mixed conclusions with no clear-cut answers for the ESL professional. She recommends several avenues for using the test scores in conjunction with all other information about the student in making placement decisions.

Some studies lean in favor of the single global proficiency factor which "only needs to be identified" to aid in the selection of a simple placement test. One of these studies by Hisama (1980) used

two different methods of analysis of the results of four ESL proficiency tests. These tests included the structure and listening subtests of the CELT (Comprehensive English Language Test), the RFUPT (Reading for Understanding Placement Test) and a test designed by Hisama, the NCT (New Cloze Test). Subjects included 136 students at the Center for English as a Second Language (CESL) at Southern Illinois University in Carbondale. They were compared by profile and factor analysis. Language groups included Arabic, Farsi, Spanish, African, and Asian. All four tests revealed substantial reliability and validity as measures of a single global proficiency factor.

Perkins and Pharis (1980) studied the Iowa Silent Reading Test (ISRT), the Nelson-Denny Reading Test (ND), and the McGraw-Hill Reading Test in relation to TOEFL scores. The authors say it is assumed that an ESL student with a score of 85-90 on the Michigan Test of English Proficiency, or better than 500 on the TOEFL will have the needed skills to succeed in a university setting. (Now higher scores are preferred.) Subjects included 110 students at the CESL at Southern Illinois. The TOEFL appeared to be a predictor with the correlation between ND and TOEFL significant at $p<.05$ while the ISRT and TOEFL correlation was significant at $p<.01$.

Others use a multiple component approach to research and language testing. Flick (1978) conducted a pilot study on the use of the factor analysis of errors made by adult Spanish speakers learning English. Using 20 subjects randomly chosen from four levels of proficiency, during six weeks of instruction at Southern Illinois University, an oral translation procedure was used to elicit speech

samples, which were tape recorded. Scores of objectively labeled errors of 18 grammatical structures were computed and intercorrelated with each other. The study recorded over 2,000 words and over 460 errors for analysis. Five factors were identified and correlated: transfer, performance, simplification, overgeneralization, and pronominal reference. This multiple component approach to research in second language acquisition considers second language learning a complex process.

Turner (1978) analyzed the interlanguage of three adult Spanish-speaking males learning English and concluded that instruction had little effect on second language acquisition, while at the same time a diagnostic grammar test indicated that instruction had considerable effect on second language learning. He compared their scores on the Michigan Test, the FSI (Foreign Service Institute) test, a dictation test, and the CELT test, and their proficiency levels varied by only one point. Taped spontaneous and elicited speech resulted in 4,277 utterances over a period of about six months. The tapes were examined for 38 morphemic and syntactic items. The Spearman rank correlation coefficient for the three pair possibilities among the subjects was from .62 to .84 and the t-scores permitted rejection of the null hypothesis that the rank orders of acquired items was random at $p<.05$.

Regardless of the number of possibilities in placement testing analysis the research indicates that the need is urgent and placement should not rely on any one instrument. Hussey (1972) studied 51 Illinois junior and community colleges, fifteen of which had special programs in ESL, some serving between 200-350

students per semester. Interest in ESL is increasing at most of the schools with migrant and immigrant students having a more urgent purpose for learning English than other foreign language students. Placement was determined by objective tests, a composition and an oral interview.

Wide Range Achievement Test (WRAT)

The authors of the WRAT, Jastak et al., declare it to be a widely studied, reliable, valid achievement test consisting of a word pronunciation test, a written spelling test, and an arithmetic computation test. They say it is "one of the most precise tools in existence for the determination of several important variables influencing learning." (Jastak 1978, p.63)

The Jastak research included a variety of factorial studies and external criteria using teacher's rating of student achievement. The groups studied included rehabilitation adults, retarded adults, deprived adults, college adults and private school children. The study correlated scores, means and standard deviations on WAIS (Weschler Adult Intelligence Scale), WISC (Weschler Intelligence Scale for Children) and WRAT. See Appendix Table I for these correlations.

An intercorrelation between WRAT subtests for Level I and Level II of the over 20 age group indicated a correlation of .858 between the reading and the spelling subtests, but only .660 and .657 between reading and arithmetic, and spelling and arithmetic, respectively. Jastak also stated that the raw score declined in adults after the age of 35. (Jastak 1978, p. 49)

The 1978 WRAT norms were based on 15,200 subjects from seven states, but were described as "minimally adequate" by Matuszek in the Ninth Mental Measurements Yearbook. She says the WRAT makes a very useful screening instrument, but should be supplemented since the reading subtest measures "word recognition only." She questions ethnic representation since no data was given about this, and she says that the grade levels were arbitrarily assigned. (Matuszek 1985, pp. 1734-6)

Saigh, also in the Ninth Mental Measurements Yearbook, declares that the WRAT has little to offer as a viable national measure of achievement. He says validity data were based on 1946 and 1965 norms. He says the test authors did not provide quantitative data to support the claim of economic, intellectual or racial equity. He says, however, the split-half coefficients of reliabilty are "amazingly robust" (range .94-.98), but "information on scoring reliability is conspicuously absent." He further questions test-retest coefficients. (Saigh 1985, p. 1736)

Other Studies using WRAT

Gold (1982) studied 76 adult illiterates and used the WRAT to assess word recognition. She reports split-half reliability as high, averaging .93, and says that the validity of the WRAT was well established and widely used as a quick measure of reading ability. (Gold 1982, p. 1245)

McCue (1985) used the WRAT and WISC-R (Wechsler Adult Intelligence Scale-Revised) to study 19 males and 6 females with learning disability. He states that these were established tests of

intelligence and academic achievement. The subjects had a mean age of 24.2 and a mean of 11.9 years of regular education. The WRAT was administered by a psychologist. This study states that the WRAT grade levels were below that expected on the basis of educational level.

Ostertag (1986) also studied 106 community college programs for disabled adults in California and found 78.7% of these programs used the WRAT for placement. Reading was listed as the most common area of difficulty for these disabled adults. Other placement instuments used, which compared with the WRAT for percentage of use in placement, were: the Woodcock-Johnson Psychoeducational Battery, 71.8%; the Peabody Picture Vocabulary Test-Revised, 45.9%; the Peabody Individual Achievement Tests, 42.2%; and Weschler Adult Intelligence Test-Revised, 41.2%.

Whitworth studied male students in 1983 and females in 1984, comparing Mexican-American and Anglo differences in students with learning disabilities and concluded that many students were classified as learning disabled when, in fact, they could be identified as second language learners. He used the WRAT and the WAIS and found the Mexican-American adults scored significantly lower on all verbal subtests and all WRAT subtest scores. The age of these adult students ranged from 16 to 24 years. It appeared that these students were labeled as "learning disabled" when they were only deficient in English due to the limitations in their bilinguality. (Whitworth 1983, Whitworth 1984)

A question could be raised concerning the cultural and linguistic bias of the WRAT. Is the Wide Range Achievement Test

ethnically biased? Since it is widely used for placement, could its predictive value really be valid if it is biased in favor of English, but against other alphabet systems of spelling and pronunciation? I raise these questions in support of my question of the predictive validity of the WRAT for ESOL.

Wide Range Achievement Test-Revised (WRAT-R)

A revised version, the WRAT-R, was published in 1984, but as reviewed by Elaine Clark (1989, p. 901-3) in the Tenth Mental Measurements Yearbook, "the content and format are virtually unchanged." The changes all appear to be in the arithmetic section. The authors, Jastak et al., stress that the test was designed to measure basic school codes rather than comprehension, reasoning and judgement processes. The standardization sample of 5,600 was stratified by age, sex, race, geographic region and urban/rural residence. The normative data were extended to include individuals from 5 to 74 years. Clark referred to the Rasch model for item analysis and scaling which was used, but she says the results were unclear. She questions the sampling as not truly representative of the various states and regions which were taken from the 1982 Rand McNally Atlas instead of from U. S. Census data. She notes changes in converting raw scores to grade level equivalents but seemed to feel this was arbitrary. She says that the "fact that this test can be administered and scored quickly will continue to contribute to its popularity." (Clark 1989, pp. 901-3)

Harrison, also in the Tenth Mental Measurements Yearbook, declares that using the WRAT-R for screening may result in a "great

disservice to students." She also says, "Content validity is not supported and information about construct and concurrent validity is limited." As stated previously, a total of 5,600 subjects aged 5 to 74 comprised the sample. Race was designated as "white and nonwhite." Population percentages were taken from Rand McNally instead of U.S. Census reports. The characteristics of the adult sample are "vague and confusing." (Harrison 1989, p. 905)

Other Studies using WRAT-R

A concurrent validation of the WRAT-R and WAIS-R was conducted by Spruill and Beck (1986) using subjects which ranged from mentally retarded to average intelligence. Correlations were significant at $p<.01$. The subjects were 45 adults who had not been in school for some time, and most had less than a high school education. The subjects were clients of the Psychological Clinic at the University of Alabama who were referred for psychological evaluation. The mean age was 24 years. There were 28 females and 17 males. Only 13 were white, the remaining 32 being black. The WRAT-R Level II was administered with the WAIS-R as part of an assessment battery.

Basic Skills English Test (BEST)

The Basic Skills English Test (BEST) is a functional language test for limited English speakers. It was copyrighted in 1982 and new forms were added in 1986. According to Clark and Grognet 1985, this test is unique because of its "innovative approach." They indicate that it measures reliably and accurately the language skills of low-level students. This review reports that the test was designed

for newly arrived Southeast Asian refugees in adult education programs, but "can be used effectively with students from a wide variety of cultural and linguistic backgrounds." The language is natural and situationally appropriate. The BEST has exceptionally high face validity since the items are based on tasks required for everyday life. The norming sample included 987 students for the core section and 632 students for the literacy section. The sample consisted of sizeable groups of native speakers of Vietnamese, Hmong, Lao, Cambodian, Chinese, Spanish, Polish, Romanian, as well as some speakers of other languages. Reliability, using K-20 for the four separate parts of the core section, ranges from .73 to .91. On the literacy skills section the reading portion has a reliability of .96 while the writing portion shows a reliability of .89. A SCALAR analysis program designed by the Educational Testing Service was used by the staff at the Center for Applied Linguistics in Washington, D.C. The reviewers state that the biggest drawbacks to using this test include the expense of individual testing on the oral portion, the time involved in scoring, and the cost of supplies for the literacy portion. (Clark and Grognet, 1985)

Real-Life English Placement Survey

The Real-Life English Placement Survey was developed by the Steck-Vaughn Company to accompany a series of textbooks called Real-Life English: A Competency-Based ESL Program for Adults by Julia Jolly and Lynne Robinson with Dr. James Cummins as consultant.

The Real-Life English Placement Survey and the Real-Life English textbook series have been field tested, and student placement was correlated with CASAS (Comprehensive Adult Student Assessment System) by the National Diffusion Network in California and MELT-SPL (Mainstream English Language Training Project of the U.S. Department of Health and Human Services, Student Performance Levels) standards. CASAS achievement scores of 165-190 were used to indicate Book 1 of the Real-Life series; 191-205, Book 2; 206-216, Book 3; and 217-226+, Book 4. Field test sites included Burbank and Orange County, California; Miami Beach, Florida; River Grove, Illinois; Austin and San Antonio, Texas; and New York. (Jolly et al. 1988)

No other reports of research appear to be available on this placement survey.

Conclusions Drawn From Review of Literature

It is difficult to select an ESL placement or achievement test measure, even though there are many standardized tests on the market. Research indicates that behavioral anchoring and cloze procedures give the most useful test information. Research has not clarified whether there is a single language proficiency factor to measure or if there are multiple factors involved. The small size of the samples studied in some research leaves the question of generalizability open to speculation. Even though the WRAT and the WRAT-R are widely used, there has been little evidence of research with ESOL adults to validate continued usage of these two tests.

CHAPTER THREE

METHODS AND PROCEDURES

SAMPLE

The sample is comprised of stratified clusters in the Johnson County Community College non-credit Continuing Education program of English for speakers of other languages. The sample includes one pre-beginning class, three beginning classes, four intermediate classes, and two advanced classes. The number of students tested at the time of enrollment was 169. Some classes did not choose to participate. This is a natural assembly process as students tend to enroll in classes by self-assessment of achievement or simply because the time and location are convenient. Teachers advise the students about placement results, but the students are free to choose the classes they prefer.

These students represent a variety of nationalities, ages, and previous levels of education. Native languages include Arabic, Bulgarian, Cantonese, Danish, Farsi, French, German, Hebrew, Hungarian, Indonesian, Italian, Japanese, Korean, Laotian, Malaysian, Mandarin, Portuguese, Russian, Spanish, Tawainese, Thai, Turkish, Vietnamese, and Urdu. The majority of these students are immigrants or refugees who intend to stay in the U.S. and eventually become citizens. A few students are on special work or visitor visas.

Ages range from 16 to 71. Percentages of age by decades in this sample include:

Age	Percentage of Sample
under 20	9.1
21-30	35.2
31-40	25
41-50	13.6
51-60	5.7
over 60	11.4

Classes meet once or twice a week in the evenings for 1 1/4 to 3 hours for 8-12 weeks. Classes are free and funded by Project Finish (an adult basic literacy program) and the Johnson County Library system, but students purchase a textbook and a workbook. Class size varies from eight to 24 students with an open enrollment policy and a high rate of morbidity. Class attendance varies with family and transportation problems.

Johnson County, a suburban residential area south of Greater Kansas City, is located in Kansas.

INSTRUMENTATION

Four subtests of the WRAT, Level I and II Reading (Appendix I) and Level I and II Spelling (Appendix II and III), were administered and measured for predictive validity against the achievement shown on the BEST (Appendix IV) and the Real-Life English Placement Survey (Appendix V). Prior to the beginning of the school term, teachers and volunteers attended a training review session on the administration of the WRAT and oral scoring procedures to control for interrater reliability. At the time of the training, scores on a taped sample ranged in reliability from 74-83

correct on the 100-item WRAT-I Reading instrument. This deviation of 9 points was reduced to 2 with training in pronunciation and range of acceptable variation. The training session was attended by 10 of the volunteers and 2 instructors. Tape recordings of pronunciation were used for measured consistency.

Wide Range Achievement Test

The WRAT-I and WRAT-II tests of reading were administered orally by volunteers during the first week of classes in September 1990. See Appendix I for a copy of the test. There are two levels of the test, with Level-I used first for all pre-beginning, beginning and most intermediate students. The student continues with the oral reading of the 100 items until 5 consecutive failures occur on Level I. With Level II, 89 additional items are used until 5 consecutive failures have occurred. There is a 10-second time limit per word. Raw scores are converted to grade level equivalents from a chart accompanying the test.

The WRAT spelling test was administered to select groups of all students at the second class session. The WRAT-I Spelling consisted of 45 words pronounced to the students in a group situation, and each word was accompanied by a sentence using the word in context. The student was expected to listen and write the word, correctly spelled. WRAT-II Spelling included 46 additional words and 20-25 of these were administered at the intermediate and advanced levels. See Appendix II and III for sample tests. The time limit was 15 seconds per word.

Basic English Skills Test

The Basic English Skills Test (BEST) was used to measure achievement of 84 students representing each cluster ability group. This test is an open-ended measure of student ability to read and follow directions, write a check, address an envelope, read signs, choose correct grammar and write a simple invitation to a dinner party. The 60-item random selection of half of the complete one hour testing instrument (Form D) was finished by advanced students in 20-30 minutes and by intermediate students in 40 minutes, while beginning and pre-beginning classes were allowed 45 minutes.

Real-Life English Placement Survey

The Real-Life English Placement Survey (Appendix V) was administered at the second class session to one advanced group and took 20 minutes. It included a short oral portion on name and address and a written portion, but the entire survey was administered as a written test. This survey functions as a measure of English achievement for these ESOL students at this time.

The Real-Life English Placement Survey is based on the behavioral objectives for the textbook series and therefore represents behavioral anchoring and use of the cloze procedures referred to in the review of literature as most useful in placement testing.

OTHER PROCEDURES

Informed consent forms were signed by all adult participants at the first class session. All reporting is anonymous even though

the name of each student will remain with the research data for cross reference and correlations of age and native language.

Test results were recorded by trained volunteers on computer scorable answer sheets (SCANTRON) coded for age and native country of the student as well as the self-selected ability group.

ANALYSIS OF RESULTS

Both the WRAT and the achievement tests were analyzed by computing the mean score, standard deviation, item analysis, discrimination index, t-score, split-half reliability, Kuder-Richardson K-R 20 reliability, standard error of measurement, and correlation coefficients.

The mean score for each achievement level cluster was computed as well as the mean score for the total sample on the WRAT as a measure of central tendency. The ideal mean score for a test is the mid-point between the expected chance score and a perfect score. Because the WRAT involves open-ended answers the chance score is 0, therefore the ideal mean score should be the mid-point of the test.

Because the WRAT is norm-referenced and designed for several levels, the optimal difficulty level of the test is most appropriate for middle-level students. The test will therefore be a little too hard for the low students and a little too easy for the high students. For this reason, the WRAT can be expected to have its highest predictive validity at the middle levels.

An item analysis was computed to measure the degree of difficulty of each item on the WRAT by the percentage of examinees that answer the item correctly. Higher numbers from .7 to .9 indicate easy questions answered correctly by most of the students. Lower numbers from .3 to .1 indicate very difficult items answered correctly by very few students. The numbers in the middle are of average difficulty. Those items that maximize the difference in students' abilities are the ones that are more likely to provide a reliable ranking of students and serve as useful placement items.

The discrimination index was used to measure the item differentiation between students who did well on the test and those who did poorly. Discrimination indices range from -1 to +1, and if an item discriminates perfectly, then all the people in the top group will get it right. For a norm-referenced test like the WRAT, high discrimination indices are desirable. With a discrimination index of .4, the items will be considered good discriminators. Below .2, the items merit rejection.

The standard deviation increases as the discrimination index increases. For a norm-referenced test like the WRAT, where the goal is to spread students out, a large standard deviation is desirable.

T-scores are standard scores based on the standard deviation to indicate how well each student does in comparison to other students on a given test. However, as the makeup of the group of students changes, the t-score will change. The t-score does not indicate changes if the entire group improves from the time a pre-test is given to the post-test score.

The null hypothesis states there is no difference between the scores on the WRAT and the scores of achievement and placement level ranking of students. The t-scores will be significant if $p < .01$ for the correlation of these tests.

Split-half reliability commonly divides the items after testing into odd and even numbered questions. The two scores are then correlated. The K-R 20 reliability coefficient uses the Kuder-Richardson formulas to provide a comparison of correct items to the individual's total score and to the mean and standard deviation on the test for the entire group.

The Standard Error of Meaurement (SEM) estimates the error in individual test scores. Both the reliability coefficient and the standard deviation affect the SEM. The larger the standard deviation, as desired in norm-referenced tests (like the WRAT), the larger the SEM.

These same statistics were computed for the Basic English Skills Test and the Real-Life English Placement Survey and correlation coefficients indicate the predictive validity of the WRAT as a measure of achievement in ESOL classes.

CHAPTER FOUR

RESULTS

The sample tested included students from a variety of ethnic groups in 6 cluster groupings for instruction. The WRAT-I Reading test sample was 169 students; the WRAT-II Reading test sampled 75;

the WRAT-I Spelling, 47 students; the WRAT-II Spelling, 35 students; the BEST sampled 84 students and REAL-Life English Placement,15 students.

Students were from 43 countries: Afghanistan, Argentina, Bolivia, Brazil, Bulgaria, Cameroon, China, Costa Rica, Cuba, Denmark, Ecuador, El Salvador, Ethiopia, France, Germany, Honduras, Hong Kong, Hungary, India, Indonesia, Iran, Israel, Italy, Japan, Korea, Laos, Lebanon, Lithuania, Mexico, Pakistan, Palestine, Paraguay, Peru, Puerto Rico, Russia, Switzerland, Taiwan, Thailand, Tunisia, Venezuela, Vietnam, Yemen, and Zaire.

The WRAT-I Reading test of 169 adult students resulted in raw scores from 100 to 6 with a mean of 69 and a standard deviation of 20 on a 100 point test of pronunciation of words and naming of select alphabet symbols. Words range from words of little difficulty to those of increasing difficulty. The item analysis indicates 61 of the 75 words on the list have a discrimination index higher than 0.50 and thereby appear to serve as a useful tool for placement of these ESOL students. See Appendix VI.

Item 74, pronouncing the word residence, indicates the highest discrimination at 0.80 with a difficulty of 0.63 where 100% of the upper 1/4 answered correctly, 75% of the middle 1/2, and only 2% of the lower 1/4. The next two significant items tested were rudimentary and participate both with a discrimination of 0.75, and a difficulty of 0.45 and 0.60, respectively.

The authors of the Wide Range Achievement Test utilized the Rasch Model and the following items were calibrated by them to indicate discrimination: pseudonym at +9.02, mitosis 8.09, intrigue

7.04, anomaly 6.61, emphasis 5.95 and luxurious 5.18. (Jastak 1978) These items compare with results of the following item analysis discrimination indices for ESOL adults in Johnson County: pseudonym 0.43, mitosis 0.64, intrigue 0.58, anomaly 0.68, emphasis 0.72, and luxurious 0.64. This would appear to indicate that these items are useful placement items for ESOL adults students as well as those from a broader population, with emphasis being a better indicator for ESOL students as pseudonym is for the broader range of all adult students.

The WRAT-II Reading results for 75 ESOL adults indicate similar high levels of discrimination. The raw scores range from 86 to16 on an 89-item instrument with a mean of 55 and a standard deviation of 16. Reliability coefficients were 0.96 on both the split-half and K-R 20. Items with discrimination indices of greater than 0.5 include the pronunciation of 43 of 89 items. Item 84, beneficent, resulted in the highest discrimination index 0.73 with a difficulty of 0.33 as 95% of the subjects tested in the upper 1/4 pronounced the word correctly, only 19% in the middle 1/2 could do so, and none in the lower 1/4. Item 57, protuberance, gave the second highest discrimination index, 0.72, with a difficulty of 0.61.

WRAT-I Spelling is not currently being used by many instructors in the program. Only 47 of the original 169 adult ESOL students were given the spelling test of 45 items with words pronounced by the instructor and also used in the context of a sentence. Raw scores ranged from 40 to 4 with a mean of 20 and a standard deviation of 9, indicating high discrimination for placement purposes. The split-half reliability coefficient was 0.96 with a K-R 20

of 0.95. Words with over 0.5 discrimination index include 27 of the 45 items. The highest level of discrimination appears to be with the item, purchase, which has a discrimination index of 0.87 and a difficulty of 0.19. 82% of the upper 1/4 correctly spelled the word, but none of the lower 3/4 were able to do so. The items reasonable and occupy both indicate a discrimination of 0.83 with difficulty indices of 0.23 and 0.19, respectively.

The WRAT-II Spelling was administered to 35 advanced or intermediate adult ESOL students with raw scores on 25 items ranging from 20 to 3. It needs to be noted that no instructor administered the entire test of 46 items. One section used items 1-20, while the other section used items 1-25. Results appear to be similar for both groups. The mean was 11 and standard deviation was 5. Split-half reliability and K-R 20 both yielded 0.85 with standard errors of 1.88 and 1.87, respectively. Items with discrimination indices over 0.5 include 13 of the 25 words. The greatest discrimination appears with the item, institute, with an index of 0.78 and a difficulty of 0.46 as 100% of the upper 1/4 spelled the word correctly and only 41% of the middle 1/2 could do so, but none of the lower 1/4.

The Wide Range Achievement Test as used with ESOL students in the Johnson County Community College non-credit continuing education program indicates a high discrimination factor for most items and therefore the ability to predictively aid in the placement of these students in classes for instructional purposes ranging from pre-beginning to advanced study of English.

Portions of the Basic English Skills Test (BEST) were administered to 84 adult ESOL students with raw scores on a 60 item composite test ranging from 58 to 10 with a mean of 45 and a standard deviation of 10. Reliability coefficients indicate 0.93 on both the split-half method and the K-R 20. Item 53 gave the highest discrimination index with 0.76 and a difficulty of 0.62 as 100% of the upper 1/4 answered correctly, 75% of the middle 1/2, and only 4% of the lower 1/4. See Appendix VII. This item was a reading understanding item referring to a school catalog notice and using the American idiom ahead of time in the correct choice of the multiple choice answers. The distractors also tested knowledge of the prepositions before and after.

The Real-Life English Placement Survey was administered to only one group of 15 advanced ESOL students. Raw scores on a 20-item function/activity test ranged from 20 to 3 with a mean of 15 and a standard deviation of 4. Split-half reliability coefficient was 0.83 and the K-R 20 was 0.89. Fifteen items showed high discrimination between students who did well overall on the test and those who did not, even though all students reporting to this class considered themselves ready for advanced work in English. The highest discrimination index was shared by items 3 and 15 with an index of 0.76 and difficulty indices of 0.87 and 0.80, respectively. Item 3 states This person can fix a broken light. and the three multiple-choice answers included an electrician, a plumber, and a carpenter. Item 15 uses a chart and asks which city is the most expensive place to live with a choice of 10 cities and cost of living index for each. (Appendix V)

Other questions of interest on the Real-Life English Placement Survey include items 4, 5, and 20. Item 4 asks, How much money? and shows a picture of a quarter, a dime, a nickel and a penny. The answer is open-ended cloze and the evaluators were willing to accept $.41 or 41 cents and would have accepted the numerical value of each coin but no one chose that avenue. The item results in a discrimination index of 0.69 and a difficulty of 0.47. Errors appear to be arithmetical. Real-Life item 5 refers to the holidays:Thanksgiving, Memorial Day and the Fourth of July. The discrimination index is 0.71 with a difficulty of 0.87 as 100% of the upper 1/4 and the middle 1/2 answered correctly. The lower 1/4 answered correctly on 50% of the responses. Item 20 asks which season includes the months of March, April and May and is clearly designed for use in the northern hemisphere. This item has a discrimination index of 0.73 and a difficulty of 0.93.

CORRELATIONS

Correlations were attempted between each of the six subtests after student matches were made for 88 students who had been tested on one of the first three subtests: WRAT-I Reading, WRAT-II Reading or WRAT-I Spelling, and also tested at a later time on the second set of three subtests: BEST, WRAT-II Spelling, or Real-Life English Placement Survey. The Pearson Correlation was used. Table I shows the number of students tested on each subtest, the mean, standard deviation, reliability coefficients and standard errors for each subtest. Table II gives the correlations between these subtests for the 88 matched students.

TABLE I Six Subtests Studied

Test Name	Mean	Std Dev.	Reliability Coeff.	SEM
WRAT-I R	69.272	19.985	Split Half 0.980	2.826
N=169			K-R 20 0.973	3.286
WRAT-IIR	55.360	16.286	0.964	3.111
N=75			0.960	3.238
WRAT-I S	19.851	9.324	0.959	1.882
N=47			0.951	2.071
BEST	44.881	10.459	0.927	2.822
N=84			0.928	2.807
WRAT-IIS	10.629	4.805	0.848	1.876
N=35			0.849	1.865
Real-Life	15.133	4.470	0.834	1.821
N=15			0.892	1.466

TABLE 2 Correlations of Subtests

	WRAT II Read	WRAT I Spell	BEST	WRAT II Spell	Real-Life
WRAT I Read	0.7457 N=29 Sig.=.000	0.5762 N=31 Sig.=.001	0.4032 N=67 Sig=.001	0.4928 N=33 Sig.=.004	0.3652 N=16 Sig.=.164
WRAT II Read		0.2234 N=17 Sig. =.389	0.3289 N=25 Sig=.108	0.3712 N=16 Sig.=.157	0.317 N=15 Sig.=.250
WRAT I Spell			0.6034 N=42 Sig=.000	0.6325 N=9 Sig.=.068	0.6402 N=17 Sig.=.006
BEST				0.6252 N=31 Sig.=.000	0.8349 N=13 Sig.=.000
WRATII Spell					0.6844 N=8 Sig.=.061

	WRAT-I R	WRAT-II R	WRAT-I S	BEST	WRAT-II S	Real-Life
WRAT-I R	N=88	p<.001	p<.001	p<.001	p<.01	p<.164
WRAT-II R			p<.389	p<.1	p<.157	p<.250
WRAT-I S				p<.001	p<.1	p<.01
BEST					p<.001	p<.1
WRAT-II S						
Real-Life						

The WRAT-I Reading and the BEST scores were matched for 67 students and indicate a correlation significant at $p<.001$, as do several other combinations. The WRAT-I Reading and the WRAT-II Reading indicate a correlation significant at $p<.001$ for 29 students in the intermediate or advanced level who took both tests. WRAT-I Reading and WRAT-I Spelling correlate with a significance of $p<.001$ for 31 students who took both subtests. WRAT-I Spelling indicates a significant correlation with the BEST test at $p<.001$ for 42 students. The BEST and WRAT-II Spelling matched 31 students and correlate with a significance at $p<.001$. The BEST and Real-Life correlate with a significance at $p<.001$ for 13 students. WRAT-I Spelling also significantly correlates ability grouping with a significance at $p<.001$.

Other correlations are significant at $p<.01$ and include WRAT-I with WRAT-II Spelling for 33 students and WRAT-I Spelling with the Real-Life English Placement Survey for 17 students.

WRAT-II Reading and WRAT-II Spelling show correlation at $p<.1$ for 25 students tested. WRAT-I Spelling and WRAT-II Spelling only matched 9 students but also indicate a correlation at $p<.1$. WRAT-I Reading and the Real-Life English Placement Survey correlate with a significance of $p<.16$ with a small sample of 16.

WRAT-I Reading shows a significant correlation with grade level categories at $p<.01$. Beginning ESOL had a mean of 71 and a standard deviation of 16. Intermediate ESOL had a mean of 69 and a standard deviation of 14, while the advanced class had a mean of 82 and a standard deviation of 8. The fourth group, a conversation class

of mixed intermediate and advanced students, had a mean of 84 and a standard deviation of 11.

BEST indicates a significant correlation with sex at $p<.05$, and with age at $p<.02$, but did not give a positive correlation with the ability level groupings. See Table 3. The males had a mean of 42 compared with the total test mean of 45, while the females had a mean score of 47. The sample included 29 males and 53 females. The age group 31-40 had the highest mean score of 50, while the lowest mean score, 36, was in the age grouping of over 60.

TABLE 3 Mean and Standard Deviation by Age and Sex

Number of students by Age divisions and mean scores:

Age	No.	WRAT-1 Mean	Std.Dev.	No.	BEST Mean	Std. Dev.
0-20	7	68.3	12.9	6	46.8	4.5
21-30	25	72.6	16.9	29	45.8	9.9
31-40	21	70.9	18.6	21	50.2	5.9
41-50	10	70.0	19.2	12	43.8	12.4
51-60	4	76.0	10.7	5	42.6	10.7
61+	6	61.7	14.8	9	36.1	13.9

Sex of students as it relates to BEST mean scores

	No.	BEST Mean	Std.Dev.
Male	29	42.4	11.6
Female	53	47.1	9.3

Country codes were tabulated with the following results: 3.4% Afganistan, 2.3% Argentina, 2.3% Bolivia, 1.1% Bulgaria, 5.7% China, 1.1% Costa Rica, 1.1% Ecuador, 1.1% Honduras, 2.3% Hong Kong, 1.1% Hungary, 5.7% India, 2.3% Indonesia, 3.4% Iran, 1.1% Israel, 10.2% Japan, 4.5% Korea, 2.3% Laos, 1.1% Lebanon, 1.1% Lithuania, 3.4% Mexico, 1.1% Pakistan, 1.1% Palestine, 1.1% Paraguay, 2.3% Peru, 5.7% Russia, 4.5% Taiwan, 1.1% Thailand, 1.1% Tunisia, 4.5% Venezuela, 13.6% Vietnam, with 4.5% Asian and 2.3% Hispanic (country unspecified). The largest percentages of students were from Vietnam with 13.6% and Japan with 10.2%. This represents 29 identified countries of the original 43 tested.

Ability level groupings were coded and tabulated with the following results: Pre-beginning 23.9%, Beginning 13.6%, Intermediate 26.1%, Advanced 17%, Conversation (mixed intermediate and advanced) 13.6%, and Intensive Daytime (mixed beginning and intermediate) 5.7%.

The results of this study indicate a high level of discrimination (.5) on the majority of the test items and high correlations ($p<.001$) between several subtests.

The ESOL instructors in the program feel that the WRAT test does function to separate students, especially at the lower levels of pre-reading and beginning ESOL. Most instructors would prefer a function activity test with meaningful feedback about the English content the student can handle. Many times the students appear to be able to pronounce the English words, but have little or no understanding of how to use the word.

CHAPTER FIVE

CONCLUSIONS

With significant correlations, p>.001, between the WRAT-1 and the other measures of achievement in English, the BEST, it appears that the Wide Range Achievement Test (WRAT) has more than face validity and can be considered an adequate predictor of placement levels for ESOL students. Several individual test items appear to give a wide range of discrimination (See Appendix VI and VII) and can predictably sort the ESOL students into rough cluster groupings to facilitate instruction. Since this test appears to evaluate only the speaking or barking (reading without understanding) aspect of word attack skills in reading, the recommendation to augment this testing with function-activity testing, behaviorally anchored to the instructional materials, is also suggested at this time. Notably the BEST and the Real-Life tests seem to function well in determining the ability of students to follow directions in English in a communicative manner.

A more definite correlation with the ESOL groupings by grade level was expected. However, since the students self-select the group they wish to attend, considerable overlap in ability groupings is noted. The students are only advised about the class instructional level to attend.

The mean of 69 for the WRAT-I Reading translates to a mean grade level of 6.2, with a mean grade level of 8.4 from the WRAT-II Reading mean of 55. These grade levels were revised downward in

1978 on the WRAT-R I Reading, using the same word list but different scoring, to be equal to fourth grade for the mean score of this study of WRAT-I Reading, but upwards to be ninth grade level for WRAT-II Reading. Grade level scores are norm-based scores computed from the raw scores by the authors of the Wide Range Achievement Test. See Appendix I and II.

The WRAT-I Spelling mean is a raw score of 20 to which 20 is added to calculate the grade level equivalent of 4.8. The WRAT-II Spelling mean is a raw score of 11 to which 5 points are added in the directions for computing grade level equivalent of 5.2. The revised level does not change the word list but changes the scoring. WRAT-I Spelling mean translates as third grade level and Level II Spelling mean is fourth grade level on this study using the WRAT-R charts. In either case the grade level equivalent is considerably lower than that of the WRAT-I Reading or the WRAT-II Reading subtests.

It seems the Spelling subtests more adequately measure ESOL competency in English production even though the grade level equivalents are lower. The use of the pronounced word in the context of a sentence provides meaningful context clues as opposed to the word list in isolation for the Reading subtests. It is hoped that the WRAT-I and II Spelling subtests will be incorporated into the placement level criteria.

The conclusion that women do better than men on the BEST test in this study is really not valid. There are more women in ESOL classes and perhaps better women students are also more aggressive in finding English classes. Perhaps men with better English skills feel they do not need the classes or have more practice in the work

setting. More testing is recommended before any conclusion can be reached. However, women had a mean of 47 on the BEST compared to the mean for the men of 42.

Perhaps some comparison of the age groups is useful. Highest mean scores appear in the 51-60 age group for the WRAT-I Reading perhaps indicating that learning is continuous with age. However, the highest mean score appears in the 31-40 age group for the BEST. Jastak indicated that the raw score declined after age 35 in his studies. (Jastak 1978) Both mean scores appear to drop after age 61. See Table 3 on page 29.

The matched test sample of 88 is small and further sampling of ESOL adult students at varying levels of English proficiency and varying cultural and linguistic backgrounds is recommended.

WRAT-I with a sample of 169 appears to be used widely by JCCC non-credit ESOL instructors, but further work is also recommended with the WRAT-II Reading and both the WRAT-I and WRAT-II Spelling sections. It seems obvious that the makers of the WRAT testing series intend for the entire test to be administered including the arithmetic section. The latter section is not currently deemed useful for ESOL placement by the instructors, but warrants further study.

With the advantage of being only four pages, the Real-Life English Placement Survey, which comes with the textbook series currently used in the Johnson County Community College non-credit ESOL program, will be tested further in ongoing classes. The test sample of 15 is too small to be valid but indicates further study should be useful since individual items show discrimination.

The BEST was considered too long a test by the ESOL instructors who administered it. Time varied from 30 to 45 minutes and this was only half the suggested number of pages indicated by the authors of the test. Instructors agree that a simple, effective placement measure is still being sought. The WRAT will continue to serve that purpose, though general instructor attitude about its value is not high.

It seems that both a paragraph writing and a speaking test belong in the ESOL curriculum to measure communicative production of English before placement into useful instructional levels. At the time this paper is being written, plans are being implemented in Johnson County to increase the classroom instructional content in both these areas. Communicative input is necessary in instructional methods, but only with communicative production can we truly measure what the ESOL student has acquired in his English language achievement.

Perhaps the Wide Range Achievement Test is merely a useful tool in the placement of students in the classroom situation, whereas other methods of testing may provide a better measure of the English language acquisition (achievement) of each student. Respect is generated by this study for the individual item discrimination that the WRAT word list provides and the correlations with other measures of ESOL achievement indicate predictive validity.

REFERENCES

Brown, James Dean. (1989). Improving ESL placement tests using two perspectives. TESOL Quarterly, 23:1, 65-83.

Clark, Elaine. (1989). Review of the wide range achievement test-revised WRAT-R. In Jane Close Conoley and Jack J. Kramer (eds.), The Tenth Mental Measurements Yearbook, (p. 901-3). Lincoln, Nebraska: The Buros Institute of Mental Measurements.

Clark, J.L.D. and Grognet, A.G. (1985) Development and validation of a performance-based test of ESL "survival skills." In P.C. Hauptman, R. LeBlanc and M.B. Wesche (eds.), Second Language Performance Testing (p. 89-110). Ottawa: University of Ottawa. In J. Charles Alderson, Karl J. Krahnke and Charles W. Stansfield (eds.) Reviews of English Language Proficiency Tests (p. 9-10). Washington, D. C.: TESOL.

Flick, William C. (1978). A multiple component approach to research in second language acquisition. In Roger W. Andersen (ed.) The Acquisition and Use of Spanish and English as First and Second Languages. (pp. 59-74). Washington, D.C.: TESOL Teachers of English to Speakers of Other Languages, 1979.

Gold, Patricia Cohen and Horn, Pamela L. (1982). Achievement in reading, verbal language, listening comprehension and locus of control of adult illiterates in a volunteer tutorial project, Perceptual and Motor Skills, 54, 1243-1250.

Graham, Janet G. (1987) English language proficiency and the prediction of academic success, TESOL Quarterly, 21:3, September 1987, 505-521.

Harrison, Patti L. (1989). Review of the wide range achievement test-revised WRAT-R. In Jane Close Conoley and Jack J. Kramer (eds.), The Tenth Mental Measurements Yearbook, (pp. 903-5). Lincoln, Nebraska: The Buros Institute of Mental Measurements.

Hisama, Kay K. (1980). An analysis of various ESL proficiency tests. In John W. Oller, Jr., and Kyle Perkins, Research in Language Testing, (pp. 47-53). Rowley, Mass.: Newbury House Publishers, Inc. ISBN 0-88377-131-4.

Hussey, Mary A. (1972). English as a second language in Illinois. In Wilga M. Rivers, Louise H. Allen, Sandra J. Savignon, and Richard T. Scanlan (eds.), Changing Patterns in Foreign Language Programs: Report of the Illinois Conference on Foreign Languages in Junior and Community Colleges, 1972. (pp. 177- 185). Rowley, Mass.: Newbury House Publishers, Inc.

Jastak, Joseph F. and Jastak, Sarah. (1978). Wide Range Achievement Test (WRAT) Manual. 1978 edition. Wilmington, Delaware: Jastak Associates, Inc.

Jolly, Julia and Robinson, Lynne, with James Cummins as consultant. (1988). Real-Life English: A Competency-based ESL Program for Adults. Books 1-4. Austin, Texas: Steck-Vaughn Co.

Jonz, John. (1990). Another turn in the conversation: What does cloze measure? TESOL Quarterly 24:1, 61-83.

Matuszek, Paula. (1985). Review of wide range achievement test, 1978 edition. In James V. Mitchell, Jr. (ed.) The Ninth Mental Measurements Yearbook ,Vol.II, (pp. 1734-1736). Lincoln, Nebraska: The Buros Institute of Mental Measurements.

McCue, Michael; Goldstein, Gerald; Shelly, Carolyn; and Katz, Lynda. (1985). Cluster Analysis of the Luria-Nebraska Neuropsychological Battery with Learning Disabled Adults. paper presented at the annual meeting of the American Psychological Association in Los Angeles, Calif., August 23-27, 1985. ED 268 744.

Ostertog, Bruce A.; Pearson, Mary Jane T.; and Baker, Ronald E. (1986) Services for Learning Disabled Adults in California's Community Colleges. ED 265 892. Sacramento: California State University and Mira Costa College.

Perkins, Kyle and Brutten, Sheila R. (1988). A behavioral anchoring analysis of three ESL reading comprehension tests. TESOL Quarterly, 22:4, December 1988, 607-622.

Perkins, Kyle; Brutten, Sheila R.; Angelis, Paul J. (1985) Evidence for Unique Articulatory and Auditory Dimensions in ESL Data. ED 266 636 presented at the International Language Testing Symposium of the Intervuniversitare Sprachtestgrupps (IUS) in Finland, November 17-18, 1984.

Perkins, Kyle and Pharis, Keith. (1980). TOEFL scores in relation to standardized reading tests. In John W. Oller, Jr., and Kyle Perkins, Research in Language Testing. (pp. 142-6). Rowley, Mass.: Newbury House Publishers, Inc. ISBN 0-88377-131-4.

Saigh, Philip A. (1985). Review of wide range achievement test WRAT, 1978 edition. In James V. Mitchell, Jr. (ed.) The Ninth Mental Measurements Yearbook , Vol. II, (p. 1736). Lincoln, Nebraska: The Buros Institute of Mental Measurements.

Spruill, Jean and Beck, Brett. (1986) Relationship between the WAIS-R and Wide Range Achievement Test-Revised, Educational and Psychological Measurement, 46, 1037-1040.

Stump, Thomas A. (1978). Cloze and dictation tasks as predictors of intelligence and achievement scores. In John W. Oller, Jr. and Kyle Perkins. Language in Education: Testing the Tests. (pp. 36-64). Rowley, Mass: Newbury House Publishers, Inc.

Turner, David A., Jr. (1978). The effect of instruction on second language learning and second language acquisition. In Roger W. Andersen (ed.) The Acquisition and Use of Spanish and English as First and Second Languages. (pp. 107-116). Washington, D.C.: TESOL Teachers of English to Speakers of Other Languages, 1979.

Whitworth, Randolph H. (1983). Differences Between Anglo and Mexican-American Students Classified as Learning Disabilities. El Paso, Texas: The University of Texas. paper presented at the Southwestern Psychological Association Conference in San Antonio, TX, April 21-23, 1983. ED 234 535.

Whitworth, Randolph H. (1984). Differences Between Anglo and Mexican-American Females Classified as Learning Disabilities. El Paso, Texas: The University of Texas. paper presented at the Southwestern Psychological Association Conference in New Orleans, La. April 19-21, 1984. ED 245 863.

citation style: APA American Psychological Association

APPENDIX TABLE I

APPENDIX TABLE I

from Jastak 1978

Means and Standard Deviations of WAIS, WISC, and WRAT Quotients for Five Groups

Test	Rehabilitation Adol. & Adults WAIS N=218		Private School Children WISC N=232		Retarded Adol. & Adults WAIS N=91		College Adol. & Adults WAIS N=44		Deprived Adol. & Adults WAIS N=56	
	M	SD	M	SD	M	SD	M	SD	M	SD
WAIS or WISC										
Verbal	99.19	14.66	118.25	12.04	65.54	11.04	115.39	12.16	81.07	14.69
Performance	95.16	13.49	112.78	11.35	64.16	13.52	108.68	14.62	93.63	14.03
Full Scale	97.26	13.74	117.13	10.44	62.56	11.22	113.39	13.07	85.54	14.52
WRAT										
Reading	95.97	18.54	110.74	13.92	67.52	9.32	116.14	12.92	77.23	12.12
Spelling	93.58	19.18	109.38	13.30	67.33	9.00	113.70	13.26	75.53	12.28
Arithmetic	88.85	14.56	106.90	11.61	66.78	8.24	101.30	12.44	78.57	10.95
AGE (in yrs.)	25.98	12.09	10.90	3.61	19.38	9.75	27.96	9.38	22.48	11.05

TABLE II

Intercorrelations Between WRAT Subtests, Level II

(N=200 at each age level, except age 20 where N=100, Total N=1300)

Age	Reading vs. Spelling	Reading vs. Arithmetic	Spelling vs. Arithmetic
12	.916	.806	.803
13	.876	.646	.685
14	.928	.742	.775
15	.891	.739	.755
16-17	.896	.718	.720
18-19	.914	.716	.719
20-up	.858	.660	.657

TABLE III **Summary of Reliability Coefficients and Errors of Measurement for Three WRAT Subtests, Levels I & II**

Test	Level I (7 groups, N=200 each) Ages	r	SEM	Level II (7 groups, N=200 each) Ages	r	SEM
Reading	5–11	>.98	1.05–1.39	12–24	>.98	1.33–1.70
Spelling	5–11	>.96	.86–1.20	12–24	>.97	1.13–1.34
Arithmetic	5–11	>.94	.88–1.42	12–24	>.94	1.21–1.38

APPENDIX I

APPENDIX I

WIDE RANGE ACHIEVEMENT TEST

JASTAK

Page 4
Reading, Level I

	A	R	Z	H	I	Q	S	E	B	O		10
Two letters in name (2)	A	B	O	S	E	R	T	H	P	I	U	Z	Q	23

cat see red to big work book eat was him how 36

then open letter jar deep even spell awake block size 46

weather should lip finger tray felt stalk cliff lame struck 56

approve plot huge quality sour imply humidity urge 64

bulk exhaust abuse collapse glutton clarify 70

recession threshold horizon residence participate quarantine 76

luxurious rescinded emphasis aeronautic intrigue repugnant 82

putative endeavor heresy discretionary persevere anomaly 88

rudimentary miscreant usurp novice audacious mitosis 94

seismograph spurious idiosyncrasy itinerary pseudonym aborigines 100

Level I,
Raw Scores (RS)
and Grade Ratings(GR)

SEE MANUAL FOR NORMS

RS	GR	RS	GR	RS	GR	RS	GR	RS	GR	RS	GR	RS	GR	RS	GR	RS	GR	RS	GR
0	N7	9	P6	18	K6	27	15	36	23	45	28	54	38	63	51	72	66	81	76	91	88
1	N8	10	P7	19	K7	28	16	37	24	46	28	55	39	64	53	73	67	82	77	92	90
2	N9	11	P8	20	K8	29	17	38	24	47	29	56	40	65	55	74	69	83	79	93	92
3	P0	12	P9	21	K9	30	18	39	25	48	30	57	41	66	57	75	70	84	80	94	93
4	P1	13	K0	22	10	31	19	40	25	49	31	58	42	67	59	76	71	85	81	95	94
5	P2	14	K1	23	11	32	20	41	26	50	32	59	44	68	60	77	72	86	83	96	95
6	P3	15	K2	24	12	33	21	42	26	51	33	60	45	69	62	78	73	87	84	97	96
7	P4	16	K4	25	13	34	22	43	27	52	34	61	47	70	64	79	74	88	85	98	97
8	P5	17	K5	26	14	35	22	44	27	53	36	62	49	71	65	80	75	89	86	99	98
																		90	87	100	99

Reading, Level II

Two letters in name (2)	A	B	O	S	E	R	T	H	P	I	U	Z	Q	(13) 15

milk city in tree animal himself between chin split form 25

grunt stretch theory contagious grieve toughen aboard triumph 33

contemporary escape eliminate tranquillity conspiracy image ethics 40

deny rancid humiliate bibliography unanimous predatory alcove 47

scald mosaic municipal decisive contemptuous deteriorate stratagem 54

benign desolate protuberance prevalence regime irascible peculiarity 61

pugilist enigmatic predilection covetousness soliloquize longevity abysmal 68

ingratiating oligarchy coercion vehemence sepulcher emaciated evanescence 75

centrifugal subtlety beatify succinct regicidal schism ebullience 82

misogyny beneficent desuetude egregious heinous internecine synecdoche 89

Level II,
Raw Scores (RS)
and Grade Ratings(GR)

SEE MANUAL FOR NORMS

RS	GR	RS	GR	RS	GR	RS	GR	RS	GR	RS	GR	RS	GR	RS	GR	RS	GR	RS	GR	RS	GR	RS	GR
0	K1	7	13	14	23	21	33	28	43	35	54	42	64	50	77	58	89	66	100	74	112	92	125
1	K3	8	14	15	24	22	34	29	45	36	56	43	66	51	78	59	90	67	102	75	113	83	127
2	K5	9	15	16	25	23	36	30	47	37	57	44	68	52	80	60	92	68	103	76	115	84	129
3	K6	10	17	17	27	24	37	31	48	38	59	45	69	53	81	61	93	69	105	77	117	85	130
4	K8	11	18	18	29	25	39	32	50	39	60	46	71	54	83	62	94	70	108	78	118	86	131
5	K9	12	19	19	30	26	40	33	52	40	62	47	73	55	84	63	96	71	107	79	120	87	133
6	L1	13	21	20	31	27	41	34	53	41	63	48	74	56	86	64	97	72	109	80	122	88	135
												49	76	57	87	65	99	73	111	81	124	89	137

Reading, Level 1

	A R Z H I Q S E B O	10
Two letters in name (2)	A B O S E R T H P I U Z Q	25
cat see red to big work book eat was him		35
how then open letter jar deep even spell awake		44
block size weather should lip finger tray felt stalk		53
cliff lame struck approve plot huge quality sour		61
imply humidity urge bulk exhaust abuse collapse		68
glutton clarify recession threshold horizon residence		74
participate quarantine luxurious rescinded emphasis		79
aeronautic intrigue repugnant putative endeavor		84
heresy discretionary persevere anomaly rudimentary		89
miscreant usurp novice audacious mitosis seismograph		95
spurious idiosyncrasy itinerary pseudonym aborigines		100

Photocopying of this test is a violation of copyright law.

COPYRIGHT 1984 by Jastak Associates, Inc., 1526 Gilpin Avenue, Wilmington, Delaware 19806.
All rights reserved. Printed in U.S.A. 1937, 1946, 1965, 1978, 1979, 1984.

WRAT·R¹ Raw Score to Grade Equivalents

JASTAK ASSESSMENT SYSTEMS

READING

RS	1-29	30	35	40	45	50	55	60	65	70	75	80	85	86-100						
GE	Pre-First	1B	1M	1E	2B	2M	2E	3B	3E	4B	4E	5B	5E	6B	6E	7B	7E	8B	8E	Above 8

SEM = 2

SPELLING

RS	1-21	25	30	35	40	45	50	55	57-65											
GE	Pre-First	1B	1M	1E	2B	2M	2E	3B	3E	4B	4E	5B	5E	6B	6E	7B	7E	8B	8E	Above 8

SEM = 1.5

ARITHMETIC

RS	1-13	15	20	25	30	35	40	41-59												
GE	Pre-First	1B	1M	1E	2B	2M	2E	3B	3E	4B	4E	5B	5E	6B	6E	7B	7E	8B	8E	Above 8

SEM = 1.5

Two letters in name (2) A B O S E R T H P I U Z Q (15) 15

milk city in tree animal himself between chin split 24

form grunt stretch theory contagious grieve toughen aboard 32

triumph contemporary escape eliminate tranquillity conspiracy 38

image ethics deny rancid humiliate bibliography unanimous 45

predatory alcove scald mosaic municipal decisive contemptuous 52

deteriorate stratagem benign desolate protuberance prevalence 58

regime irascible peculiarity pugilist enigmatic predilection 64

covetousness soliloquize longevity abysmal ingratiating oligarchy 70

coercion vehemence sepulcher emaciated evanescence centrifugal 76

subtlety beatify succinct regicidal schism ebullience misogyny 83

beneficent desuetude egregious heinous internecine synecdoche 89

COPYRIGHT 1984 by Jastak Associates, Inc., 1526 Gilpin Avenue, Wilmington, Delaware 19806.
All rights reserved. Printed in U.S.A. 1937, 1946, 1965, 1976, 1978, 1984.

Photocopying of this test is a violation of copyright law.

WRAT·R²

Raw Score to Grade Equivalents

RS	READING 1-30			35		40		45		50		55		60								65-89
GE	Below 3	3B	3E	4B	4E	5B	5E	6B	6E	7B	7E	8B	8E	9B	9E	10B	10E	11B	11E	12B	12E	Above 12

SEM = 2

RS	SPELLING 1-10			15		20		25						30						35		36-51
GE	Below 3	3B	3E	4B	4E	5B	5E	6B	6E	7B	7E	8B	8E	9B	9E	10B	10E	11B	11E	12B	12E	Above 12

SEM = 2

RS	ARITHMETIC 1-14			15		20		25		30						35						40-66
GE	Below 3	3B	3E	4B	4E	5B	5E	6B	6E	7B	7E	8B	8E	9B	9E	10B	10E	11B	11E	12B	12E	Above 12

SEM = 2

JASTAK ASSESSMENT SYSTEMS

WRAT

WIDE RANGE ACHIEVEMENT TEST

Joseph F. Jastak, Sidney W. Bijou, Sarah Jastak

Grade Ratings for 1978 Edition

In using the 1976 and 1965 WRAT test forms with the Norms Tables in the 1978 Manual, use the Guide Ratings below rather than those printed on the test forms. Test items are unchanged.

Level I

Spelling

Test	Cumul. Score
Copying 1 point per mark	1 to 18
Name 1 letter 2 letters	19 20
Spelling 1 point per word	21 to 65

RS	GR	RS	GR	RS	GR	RS	GR	RS	GR	RS	GR
0	N.4	11	P.8	22	1.7	33	3.3	44	5.9	55	7.3
1	N.5	12	K.0	23	1.9	34	3.5	45	6.2	56	7.5
2	N.6	13	K.2	24	2.1	35	3.7	46	6.3	57	7.7
3	N.7	14	K.5	25	2.2	36	3.9	47	6.4	58	7.9
4	N.8	15	K.7	26	2.4	37	4.1	48	6.5	59	8.1
5	P.1	16	K.8	27	2.5	38	4.3	49	6.6	60	8.3
6	P.2	17	1.0	28	2.6	39	4.5	50	6.7	61	8.5
7	P.4	18	1.1	29	2.7	40	4.8	51	6.8	62	8.7
8	P.5	19	1.3	30	2.8	41	5.0	52	6.9	63	8.9
9	P.6	20	1.4	31	2.9	42	5.4	53	7.0	64	9.2
10	P.7	21	1.5	32	3.1	43	5.7	54	7.1	65	9.5

Arithmetic

RS	GR	RS	GR	RS	GR	RS	GR	RS	GR	RS	GR	RS	GR	RS	GR	RS	GR	RS	GR
0	N.1	5	N.8	10	P.8	15	K.9	20	2.1	25	2.9	30	3.9	35	4.9	40	6.0	46	7.5	52	9.2	58	10.5
1	N.2	6	P.0	11	P.9	16	1.1	21	2.3	26	3.1	31	4.1	36	5.1	41	6.3	47	7.8	53	9.4	59	10.8
2	N.4	7	P.2	12	K.2	17	1.4	22	2.5	27	3.3	32	4.3	37	5.3	42	6.6	48	8.0	54	9.6	60	11.2
3	N.6	8	P.4	13	K.4	18	1.7	23	2.6	28	3.5	33	4.5	38	5.5	43	6.9	49	8.3	55	9.8	61	11.5
4	N.7	9	P.6	14	K.7	19	1.9	24	2.7	29	3.7	34	4.7	39	5.8	44	7.1	50	8.6	56	10.0	62	11.7
																45	7.3	51	8.9	57	10.2	63	11.9

Reading

RS	GR	RS	GR	RS	GR	RS	GR	RS	GR	RS	GR	RS	GR	RS	GR	RS	GR	RS	GR
0	N.7	9	P.6	18	K.6	27	1.5	36	2.3	45	2.8	54	3.8	63	5.1	72	6.6	81	7.6	91	8.8
1	N.8	10	P.7	19	K.7	28	1.6	37	2.4	46	2.8	55	3.9	64	5.3	73	6.7	82	7.7	92	9.0
2	N.9	11	P.8	20	K.8	29	1.7	38	2.4	47	2.9	56	4.0	65	5.5	74	6.9	83	7.9	93	9.2
3	P.0	12	P.9	21	K.9	30	1.8	39	2.5	48	3.0	57	4.1	66	5.7	75	7.0	84	8.0	94	9.3
4	P.1	13	K.0	22	1.0	31	1.9	40	2.5	49	3.1	58	4.2	67	5.9	76	7.1	85	8.1	95	9.4
5	P.2	14	K.1	23	1.1	32	2.0	41	2.6	50	3.2	59	4.4	68	6.0	77	7.2	86	8.3	96	9.5
6	P.3	15	K.2	24	1.2	33	2.1	42	2.6	51	3.3	60	4.5	69	6.2	78	7.3	87	8.4	97	9.6
7	P.4	16	K.4	25	1.3	34	2.2	43	2.7	52	3.4	61	4.7	70	6.4	79	7.4	88	8.5	98	9.7
8	P.5	17	K.5	26	1.4	35	2.2	44	2.7	53	3.6	62	4.9	71	6.5	80	7.5	89	8.6	99	9.8
																		90	8.7	100	9.9

Level II

Spelling

Test	Cumul. Score
Copying 4-9 10-17 18	1 2 3
Name 1 letter 2 letters	4 5
Spelling 1 point per word	6 to 51

RS	GR	RS	GR	RS	GR	RS	GR	RS	GR
0	K.3	10	3.3	20	6.2	30	8.5	41	10.9
1	K.6	11	3.6	21	6.4	31	8.7	42	11.2
2	K.9	12	3.9	22	6.7	32	8.9	43	11.4
3	1.2	13	4.1	23	6.9	33	9.1	44	11.7
4	1.5	14	4.5	24	7.2	34	9.3	45	11.9
5	1.8	15	4.8	25	7.5	35	9.5	46	12.1
6	2.1	16	5.2	26	7.7	36	9.7	47	12.3
7	2.4	17	5.4	27	7.9	37	9.9	48	12.5
8	2.7	18	5.7	28	8.1	38	10.2	49	12.7
9	3.0	19	6.0	29	8.3	39	10.5	50	12.9
						40	10.7	51	13.1

Arithmetic

RS	GR	RS	GR	RS	GR	RS	GR	RS	GR	RS	GR	RS	GR	RS	GR	RS	GR	RS	GR
0	P.3	5	K.8	10	2.3	15	3.9	20	5.6	25	7.2	30	8.8	35	10.4	40	12.0	46	14.1	52	16.0
1	P.6	6	1.1	11	2.7	16	4.3	21	5.9	26	7.6	31	9.2	36	10.6	41	12.4	47	14.5	53	16.2
2	P.9	7	1.4	12	3.0	17	4.6	22	6.2	27	7.8	32	9.4	37	11.0	42	12.8	48	14.8	54	16.5
3	K.2	8	1.7	13	3.3	18	5.0	23	6.6	28	8.1	33	9.7	38	11.3	43	13.1	49	15.2	55	16.8
4	K.5	9	2.1	14	3.6	19	5.3	24	6.9	29	8.4	34	10.0	39	11.6	44	13.4	50	15.5	56	17.2
																45	13.8	51	15.8	57	17.5

Reading

RS	GR	RS	GR	RS	GR	RS	GR	RS	GR	RS	GR	RS	GR	RS	GR	RS	GR	RS	GR	RS	GR	RS	GR
0	K.1	7	1.3	14	2.3	21	3.3	28	4.3	35	5.4	42	6.4	50	7.7	58	8.9	66	10.0	74	11.2	82	12.5
1	K.3	8	1.4	15	2.4	22	3.4	29	4.5	36	5.6	43	6.6	51	7.8	59	9.0	67	10.2	75	11.3	83	12.7
2	K.5	9	1.5	16	2.5	23	3.6	30	4.7	37	5.7	44	6.8	52	8.0	60	9.2	68	10.3	76	11.5	84	12.9
3	K.6	10	1.7	17	2.7	24	3.7	31	4.8	38	5.9	45	6.9	53	8.1	61	9.3	69	10.5	77	11.7	85	13.0
4	K.8	11	1.8	18	2.9	25	3.9	32	5.0	39	6.0	46	7.1	54	8.3	62	9.4	70	10.6	78	11.8	86	13.1
5	K.9	12	1.9	19	3.0	26	4.0	33	5.2	40	6.2	47	7.3	55	8.4	63	9.6	71	10.7	79	12.0	87	13.3
6	1.1	13	2.1	20	3.1	27	4.1	34	5.3	41	6.3	48	7.4	56	8.6	64	9.7	72	10.9	80	12.2	88	13.5
												49	7.6	57	8.7	65	9.9	73	11.1	81	12.4	89	13.7

JASTAK ASSOCIATES, INC. ■ 1526 GILPIN AVENUE ■ WILMINGTON, DELAWARE 19806 ■ (302) 652-4990

APPENDIX II

LEVEL I—SPELLING LIST AND PRONUNCIATION GUIDE

1. go	Children *go* to school	gō
2. cat	The *cat* has fur	kăt
3. in	We are *in* the room	ĭn
4. boy	The *boy* plays ball	boi
5. and	Bill *and* Bob play together	ănd
6. will	They *will* wait for you	wĭl
7. make	She can *make* a dress	māk
8. him	They saw *him* in town	hĭm
9. say	*Say* it slowly	sā
10. cut	Mother will *cut* the cake	kŭt
11. cook	We *cook* our own dinner	kŏok
12. light	The *light* is bright	lit
13. must	We *must* do our work	mŭst
14. dress	The *dress* fits well	drĕs
15. reach	He couldn't *reach* the ball	rēch
16. order	The captain's *order* was obeyed	ôr′ dĕr
17. watch	My *watch* is fast	wŏch
18. enter	*Enter* this way	ĕn′ tĕr
19. grown	Potatoes are *grown* in the field	grōn
20. nature	The study of *nature* is interesting	nā′ chĕr
21. explain	*Explain* how it happened	eks plān′
22. edge	He sat on the *edge* of the chair	ĕj
23. kitchen	Our *kitchen* is small	kĭch′ ĕn
24. surprise	He may *surprise* you	sĕr prīz′
25. result	The *result* of your work is good	rē zŭlt′
26. advice	My *advice* was forgotten	ăd vīs′
27. purchase	We did not *purchase* the car	pĕr′ chĭs
28. brief	I received a *brief* note	brēf
29. success	*Success* makes people happy	sŭk sĕs′
30. reasonable	His request was *reasonable* and just	rē z'n ă b'l
31. imaginary	He told us an *imaginary* story	ĭ măj′ ĭ nĕr ĭ
32. occupy	We *occupy* a small apartment	ŏk′ ū pī
33. character	Her fine *character* was praised	kăr′ ăk tĕr
34. society	Every *society* has rules	sō sī′ ĕ tĭ
35. official	An *official* invitation came today	ŏ fĭsh′ ăl
36. recognize	He did not *recognize* me	rĕk′ ŏg nīz
37. familiar	We are *familiar* with the news	fă mĭl′ yĕr
38. commission	The *commission* reported to the mayor	kŏ mĭsh′ ŭn
39. beneficial	Good food is *beneficial* to health	bĕn ĕ fĭsh′ ăl
40. appropriation	Congress made an *appropriation* for schools	ă prō prĭ ā′ shŭn
41. enthusiasm	People showed *enthusiasm* for the hero	ĕn thū′ zĭ ăz'm
42. criticize or criticise	It is easy to *criticize* others	krĭt′ ĭ sīz
43. prejudice	*Prejudice* is harmful to people	prĕj′ ōō dĭs
44. belligerent	The soldier was *belligerent* and brave	bĕ lĭj′ ĕr ĕnt
45. occurrence	War is a tragic *occurrence*	ŏ kĕr′ ĕns

APPENDIX III

LEVEL II—SPELLING LIST AND PRONUNCIATION GUIDE

1. cat	The *cat* has fur	kăt
2. run	Bob can *run* fast	rŭn
3. arm	His *arm* hurt	ärm
4. train	The *train* was crowded	trān
5. shout	If you *shout*, he'll hear you	shout
6. correct	Put down the *correct* answer	kŏ rĕkt′
7. circle	The *circle* is a round drawing	sĕr′ k′l
8. heaven	*Heaven* surrounds the earth	hĕv′ ĕn
9. educate	Parents *educate* their children	ĕd′ ū kāt
10. material	The *material* was expensive	mă tēr′ ĭ ăl
11. ruin	The house was in *ruin* after the fire	rōō′ ĭn
12. fashion	The dress is now in *fashion*	făsh′ ŭn
13. believe	I *believe* you are right	bē lēv′
14. suggestion	My *suggestion* was followed	sŭ jĕs′ chŭn or sŭg jĕs′ chŭn*
15. equipment	The office got new *equipment*	ē kwĭp′ mĕnt
16. majority	The *majority* voted for the bill	mă jŏr′ ĭ tĭ
17. institute	The art *institute* held an exhibit	ĭn′ stĭ tūt
18. literature	Some *literature* is worth reading	lĭt′ ĕr ă tūr
19. reverence	Old people are treated with *reverence*	rĕv′ ĕr ĕns
20. museum	The art *museum* held an exhibit	mū zē′ ŭm
21. precious	Health is *precious*	prĕsh′ ŭs
22. illogical	His thinking was *illogical*	ĭl lŏj′ ĭ kăl
23. decision	Your *decision* was accepted by all	dē sĭzh′ ŭn
24. quantity	He ate a large *quantity* of food	kwŏn′ tĭ tĭ
25. executive	The governor is a state *executive*	ĕg zĕk′ ū tĭv
26. necessity	Food is a *necessity* of life	nē sĕs′ ĭ tĭ
27. opportunity	He had no *opportunity* for success	ŏp ŏr tū′ nĭ tĭ
28. anxiety	Floods create *anxiety* among people	ăng zī′ ĕ tĭ
29. conscience	His *conscience* was clear	kŏn′ shĕns
30. physician	Our family *physician* examined me	fĭ zĭsh′ ăn
31. courteous	Let's be *courteous* to everybody	kĕr′ tē ŭs
32. possession	He took *possession* of the house	pŏ zĕsh′ ŭn
33. lucidity	We think best in moments of *lucidity*	lōō sĭd′ ĭ tĭ
34. exaggerate	Don't *exaggerate* your accomplishments	ĕg zăg′ ĕr āt
35. privilege	It was a *privilege* to meet the astronaut	prĭv′ ĭ lĭj
36. loquacious	He was *loquacious* during the interview	lō kwā′ shŭs
37. medieval	*Medieval* times were long ago	mĕ dĭ ē′ văl
38. effeminate	He is an *effeminate* person	ē fĕm′ ĭ nĭt
39. resilient	Steel is more *resilient* than lead	rē zĭl′ ĭ ĕnt
40. sovereignty	The country kept its *sovereignty*	sŏv′ ĕr ĭn tĭ
41. assiduous	*Assiduous* effort gets results	ă sĭd′ ū ŭs
42. irresistible	His idea was *irresistible*	ĭr rē zĭs′ tĭ b′l
43. acquiesce	To *acquiesce* is to comply with a demand	ăk wĭ ĕs′
44. charlatan	A *charlatan* is a pretender	shär′ lă tăn
45. pusillanimous	A *pusillanimous* person is weak in spirit	pū sĭ lăn′ ĭ mŭs or pū zĭ lăn ĭ mŭs*
46. iridescence	*Iridescence* is a play of colors	ĭr ĭdĕs′ ĕns

*Regional preference on pronunciation should be used.

APPENDIX IV BASIC ENGLISH SKILLS TEST (BEST)

APPENDIX IV BASIC ENGLISH SKILLS TEST (BEST)

PERSONAL BACKGROUND

Please print:

Name _____ M ☐ F ☐ (1-2)
Last First

Address _____ (3-4)
Number Street

_____ _____ (5-6-7)
City or Town State Zip Code

_____ (8)
Date of Birth (Month, Day, Year)

_____ _____ (9-10)
(Date) (Signature)

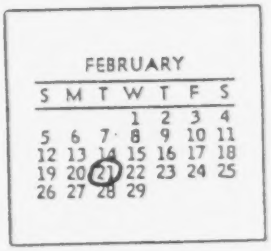
PLEASE TURN THE PA

PART 2

Circle the dates on the calendar.

EXAMPLE:

Circle February 21



FEBRUARY

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29			

1. Circle October 31.
2. Circle June 3.

JANUARY

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

FEBRUARY

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29			

MARCH

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

APRIL

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

MAY

S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

JUNE

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

JULY

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

AUGUST

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

SEPTEMBER

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30						

OCTOBER

S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

NOVEMBER

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

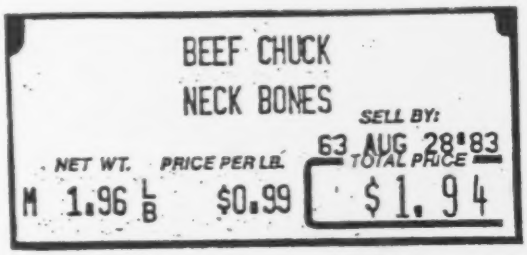
DECEMBER

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

PART 3

Write the answers.

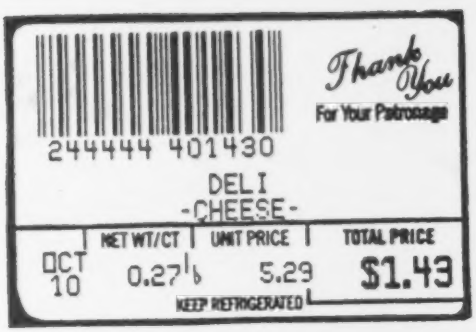
EXAMPLE:



How much does this package cost? $1.94

How much does it cost per pound? $.99

1. How much does this package cost? _____



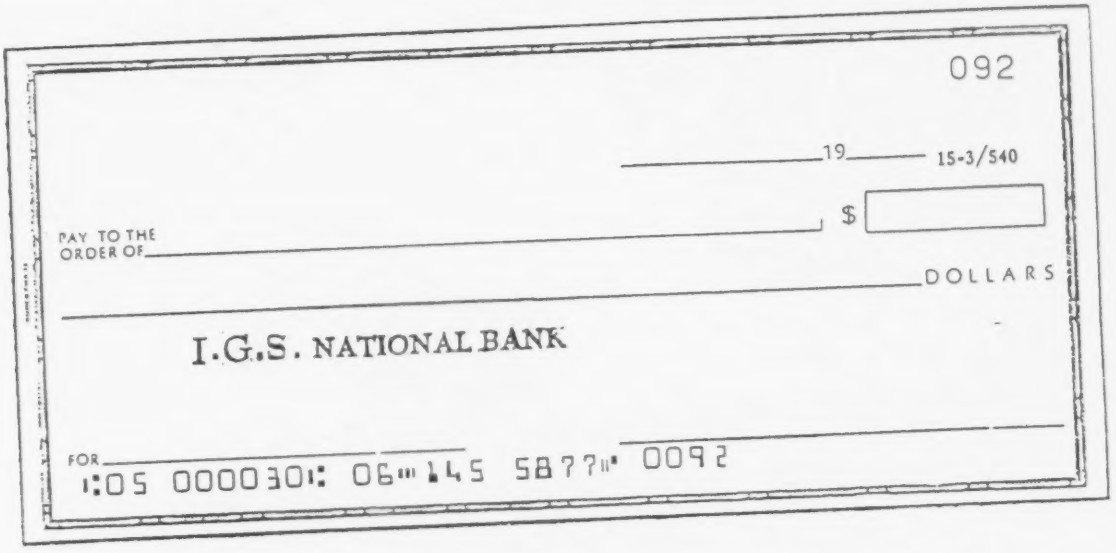
2. How much does this package cost? _____

3. How much is this a pound? _____

Write a check to the landlord to pay the rent for one month.

The landlord's name is Mr. George Rockford.

The rent is $420.00 per month.



Write Mr. Rockford's address on the envelope.
Write your return address, too.

Mr. George Rockford lives at 4318 Blossom St., Houston, Texas 77004.

Circle the telephone numbers.

EXAMPLE:

Thomas Hylen's telephone number.

Hyland Geo 4532 C SE ---------- 582-9598
Hyland John F Jr Rmu Bg ---------- 331-9100
Hyland Matthew P 3rd
4433 Greenwich Pkwy NW ---------- 338-8274
Hylden Thomas atty 1620 I St NW ---------- 828-8231
Res 1880 Columbia Rd NW ---------- 265-5952
Hylen Thomas 1620 I St NW ---------- 828-8200
Hyler Alfred F Jr 2231 Ont Rd NW ---------- 667-9268
Hyles George 1475 Euclid St NW ---------- 232-7780

HYLTON - - - see also HILTON

Hylton C E 1510 Lawrnce NE ---------- 529-7309
Hylton C S 2832 Hurst Terr NW ---------- 362-8437
Hylton Carol S 2505 Chain Bridge Rd NW ---- 362-9237
Hylton E A 2500 Q St NW ---------- 333-3643

1. Carla Hyatt's telephone number.
2. The telephone number for Dr. Hyde's office.

Huxley A Schenck 901 6th St SW ---------- 484-7477
Huxley Michael R 700 7th SW ---------- 554-4562
Huy G 4607 Conn Av NW ---------- 362-8314
Huyen Tran Huu 1220 Uith St NW ---------- 289-1486
Huygen Maarden 4214 38th St NW ---------- 966-8155
Huygen Maarten 791 Natl Press Bldg ---------- 638-3090
Huygen Maarten Washngtn DC ---------- 332-8984
Huynh Giau Truong 1701 Park Rd NW ---------- 232-8792
Hvezda E 2614 41st St NW ---------- 333-2494
Hvidsten Bill 2318 Tunlaw Rd NW ---------- 338-1921
Hwang Marian 1718 P St NW ---------- 483-6129
Hy-Gain Electronics 6 Murray Av
Annapls MD - - Washington Area Tel No- - 261-1415
Hy-Gain Electronics Corporation
6 Murray Av
Annapls Md- - - Washington Area Tel No- - 261-1133
Hy View Terrace Apartments
2740 Lorng Dr Forstvle ---------- 736-9000
HY VIEW TERRACE APARTMENTS
2740 Lorring Dr Forstvle ---------- 736-9000
Hy View Terrace Apartments 2740
Lorring Dr Forstvle
2740 Lorng Dr Forstvle ---------- 736-9000
Hyatt Allen 6239 33rd St NW ---------- 966-0149
Hyatt Angela 1434 W St SE ---------- 889-3938
Hyatt Asher A Dr 4000 Mass Av NW ---------- 686-1666
HYATT BUILDING SUPPLY CO
26204 Ridge Rd Damscs Md ---------- 301 253-2131
Hyatt Carla 2306 H St NW ---------- 965-2756
Hyatt Catherine B atty 1200 NH Av NW ---------- 872-8763
Hyatt Clarence 940 K St NW ---------- 347-4605
Hyatt Ethel C Mrs CS Natl Press Bg ---------- 347-1178
Hyatt G W MD 3800 Resrvr Rd NW ---------- 625-7813
Hyatt Gerry W Mrs
5216 Sangamore Rd Beth ---------- 229-1455
Hyatt Hotels—
Hyatt Regency Washington

HYDE PARK APARTMENTS—
Secretarial Telephone Service To Call
Residents Consult Telephone Directory For
Individual Listings Before Calling The
Following Number(s)
4141 N Henderson Rd Arl ---------- 527-5400
Or Call ---------- 527-6882
Rental Office ---------- 527-6882
Hyde Park Productions Ltd
1400 N Uhle St Arl ---------- 525-8393
Hyde Rosel H 2709 Mc Kinly NW ---------- 966-8537
Hyde Rosel H Iwyr 1735 NY Av NW ---------- 783-4800
Hyde Rosie 1325 R St NW ---------- 234-5370
Hyde Sarah Mrs 1140 Eaton Rd SE ---------- 889-5242
Hyde Sarah L 2933 Ordway St NW ---------- 966-0923
Hyde Thomas 632 F St NE ---------- 543-4176
Hyde William R atty 1776 G St NW ---------- 789-8537
Hyde William R atty 1776 G St NW ---------- 789-8538
Hyde Wm R phys olc 3326 Ga Av NW ---------- 726-9116
Res 4521 16th NW ---------- 723-6374
Hyde William R Jr 512 24th St NE ---------- 398-6081
Hyde William Richard Jr 818 Conn Av NW --- 862-5538
Hyde William S 888 17th St NW ---------- 333-5900
Hydeman Lee M Iwyr 1220 19th St NW ---------- 833-9040
Res 21 Burning Tree Ct Beth ---------- 365-5181
Hydeman Mason & Goodell attys
1220 19th St NW ---------- 833-9040
Hyder Anthony K Jr 1449-F Edwards La SW - - 562-7267
Hydralic Research 1090 Vt Av NW ---------- 289-5880
Hydraulic Research Textron 1666 K St NW - - 659-2983
Hydraulics Unlimited Inc
8532 Edgewater Dr Cap Heights ---------- 336-4436
Hydro-Aire Division Of Crane Co
10115 Glenmere Rd Fairlx ---------- 323-0727
HYDRO CONTROL CORPORATION

Read the story and circle the correct words.

Driving in the United States

In order to drive a car in the United States, you must have a current driver's license. This license is issued by the state, and each [license / car / state] has its own laws. To get a license you [need / must / want] take an eye examination, a written test, and a [answers / driving / try] test. You must pass all three tests in order [to / can / for] drive legally. If you move to [other / another / each] state, you must take a new written test. The legal driving age varies from state [at / in / to] state, but in most places it is 16 years old. Every few [year / years / times] you must renew your license. In all states, driving when you have been [drink / drinking / drunk] alcohol is illegal. If you drive dangerously and have too many [times / accidents / speed] the police can take away your license and your right to [drive / car / test]

A sign on a window:

1. What time does the store close on Tuesday?
   a. 5:00
   b. 5:30
   c. 7:00
   d. 8:30

2. What time does the store open on Saturday?
   a. 5:00
   b. 8:30
   c. 9:00
   d. 1:00

3. How many hours is the store open on Sunday?
   a. 4
   b. 5
   c. 8
   d. 9

From a state motor vehicle manual:

This state issues several kinds of driver's licenses: operator's licenses for drivers of passenger vehicles; chauffeur's licenses; and special "classed" licenses for drivers of heavy trucks, certain passenger buses, motorcycles and school buses. The type of license you need is determined by the type of vehicle you plan to drive.

10. What determines the type of license you need?
    a. the age of your vehicle
    b. the kind of vehicle you drive
    c. the number of passengers you carry
    d. the weight of your vehicle

11. If you want to drive a truck, what kind of license will you need?
    a. an operator's license
    b. a chauffeur's license
    c. a special "classed" license
    d. a passenger

From a school catalog:

Fill out the registration from below and mail it to us with a check or money order at least 5 days before the class begins. We also accept VISA or MasterCard.

12. When do you pay for classes?
    a. after classes have started
    b. before the first class meeting
    c. on the first day of classes
    d. after you have attended 5 hours of classes

13. How do you register for classes?
    a. fill out the form and send it in at least 5 days ahead of time
    b. bring in the form and money as soon as classes begin
    c. send in the form and money 5 days after classes begin
    d. mail in the form and a credit card 5 days later

From a newspaper advertisement:

Help Wanted: Janitorial Full time Days $4.75/hr. Opportunity for men and women with some prior work experience to join our building service operations. Apply in person at the Pine Hill Travel Lodge, 5353 Ranch Ridge Highway (at intersection of Rt. 50 West & Interstate 66), Fairfield City. Mon., Tues. & Wed.—Sept. 19, 20, 21. 9 am-12 noon or 1 pm-4 pm. See Mr. Petersen.

16. Who is this job for?
    a. men and women
    b. Fairfield City
    c. employment
    d. Mr. Petersen

17. When can you apply for this job?
    a. on September 18 at 10:30 a.m.
    b. on September 19 at 2:15 p.m.
    c. on September 20 at 4:30 p.m.
    d. on September 21 at 12:15 p.m.

18. What information does this ad not give?
    a. the hourly wage
    b. how to apply
    c. where to apply
    d. working hours

Write a note to an American friend inviting him or her to your house for dinner. Give the time and place.

Write 3-4 sentences.

END OF TEST

You may go back and check your answers.

APPENDIX V

APPENDIX V

Steck - Vaughn Company

Real - Life English Placement Survey

Part 1
ORAL INTERVIEW

INSTRUCTIONS: Ask the student the following questions. Record the answers in the space provided.

1.My name is (cite your name). What is your name?_____

2.Where do you live?_____

3.Do you have a telephone? _____ What is the number?_____

4.Are you married? ____ What is your (husband/wife)'s name?_____

5.Do you have a driver's license? _____

6.Do you have a job? If yes, how long have you worked at your job?_____

7.What kind of job is it?_____

Part 2
WRITTEN SURVEY

1. Draw a line under the zip code.

   Hiram Vance
   2802 Elna Street
   Davenport, Iowa 52801

2. Who works at a school?
   a. mechanic b. firemen c. principal

3. This person can fix a broken light.
   a. an electrician b. a plumber c. a carpenter

4. How much money? Write the total amount._____

5. Thanksgiving, Memorial Day, and the Fourth of July are:
   a. Mondays b. holidays c. Sundays

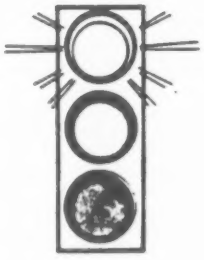
Helen is a Hispanic woman with brown hair and brown eyes.
She is five feet two and is 26 years old.

6. How old is Helen?_____

7. Which sign tells you how fast you can go?_____

a.

b.



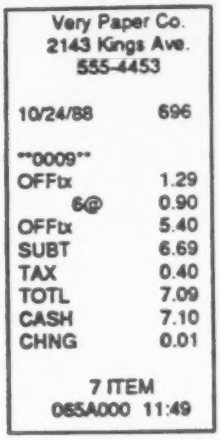
c.

8. The legislative branch:
   a. enforces the law b. makes the law c. breaks the law

9. Cheese comes from which food group?
   a. meat b. dairy c. bread/cereal

10. If your child swallows a large amount of aspirin, you should:
   a. call a poison control center b. not do anything
   c. pat your child on the back

11. How much is the total bill?_____



Very Paper Co.
2143 Kings Ave.
555-4453

10/24/88 696

0009

OFFtx	1.29
6@	0.90
OFFtx	5.40
SUBT	6.69
TAX	0.40
TOTL	7.09
CASH	7.10
CHNG	0.01

7 ITEM
065A000 11:49

12. To be safe on a motorcycle you should wear bright-colored clothing and:
    a. a helmet b. boots c. gloves

13. Which ad is for a full-time job?

a. **Jose's El Rancho**
Need experienced part time cashier to work night shift. Apply in person: 2618 West Lamar. Closed Tuesdays

b. **HIRING: FULL** time live-in companion with elderly. Minor duties. Room/board/salary. 555-9439.

C. **PART TIME WORK** waitresses needed to work at Mercado Caribe. Experienced preferred. Must be certified. Apply: Tuesday-Friday, 2pm-4pm, 506 Trinity. 555-9003 ask for Mary - Therese.

14. The person who owns an apartment or house is the:
    a. tenant b. lease c. landlord

15. Using the chart, in which city is it the most expensive to live?_____

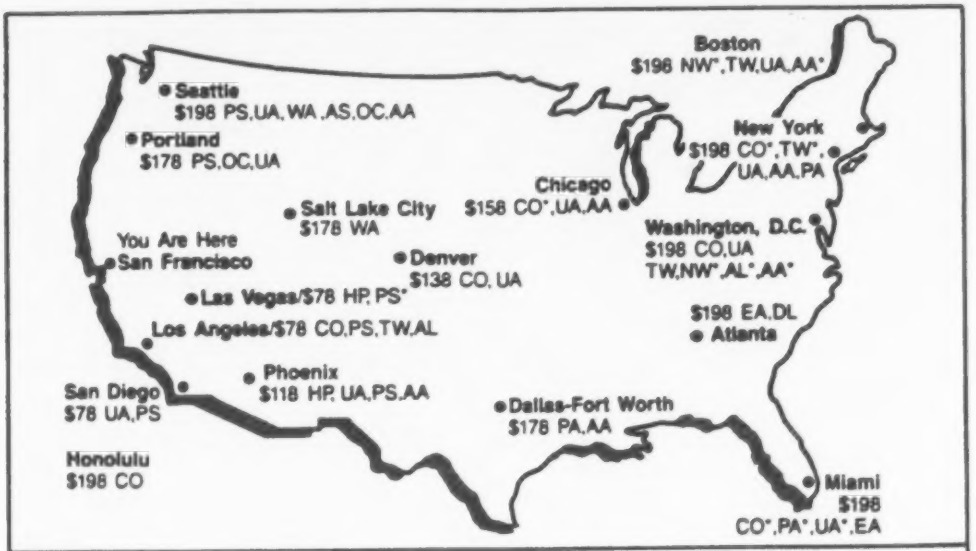
Cost of Living

Baltimore	106.9	New York	141.2
Dallas	108.9	Philadelphia	120.5
Houston	102.0	Phoenix	109.5
Indianapolis	96.6	San Antonio	96.5
Los Angeles	115.3	San Diego	119.9

Source: American Chamber of Commerce researchers

16. Your salary is your:
    a. rent b. expenses c. pay

17. What airlines fly to Denver?_____



Legend
*One or two stops; no change of planes

Airlines

AA=American	HA=Hawaiian	TW=TWA
AL=US Air	HP=America West	UA=United
AS=Alaska Airlines	NW=Northwest	WA=Western
CO=Continental West	OC=AirCal	WN=Southwest
DL=Delta	PA=PanAm	
EA=Eastern	PS=PSA	

Source: Official Airline Guides, Electronic Edition and Thomas Cook Travel U.S.A., Nov. 9, 1986

18. The Insurance premium is the amount you:
    a. receive b. pay c. lost

19. If you are being treated unfairly because you are a minority, it is:
    a. discrimination b. insurance c. a benefit

20. The months of March, April, and May are from which season?
    a. Spring b. Fall c. Summer

Steck-Vaughn Company
A Subsidiary of National Education Corporation

ISBN 0-8114-4258-7
Copyright ©1990 National Education Corporation
All rights reserved. No part of the material protected by this copyright may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying, recording, or by any information storage and retrieval system, without permission in writing from the copyright owner. Requests for permission to make copies of any part of the work should be mailed to: Copyright Permissions, Steck-Vaughn Company, P.O. Box 26015, Austin, Texas 78755. Printed in the United States of America.

APPENDIX VI WRAT-I READING

Item Analysis

Item No.	Item Name	Difficulty	Discrimination	Upper 1/4	Middle 1/2	Lower 1/4
1	A	0.99	0.23	100	100	95
2	R	0.96	0.18	100	96	90
3	Z	0.76	0.34	93	80	50
4	H	0.92	0.32	100	95	79
5	I	0.91	0.23	100	94	76
6	Q	0.88	0.28	100	89	71
7	S	0.94	0.24	95	99	83
8	E	0.94	0.27	100	96	83
9	B	0.99	0.14	100	99	98
10	O	0.99	0.13	100	100	98
11	own name	1.00	0.00	100	100	100
12	own name	1.00	0.00	100	100	100
13	A	0.98	0.30	100	100	93
14	B	0.97	-0.02	95	98	98
15	O	0.97	0.06	98	96	98
16	S	0.93	0.32	100	96	81
17	E	0.95	0.31	100	98	86
18	R	0.96	0.30	100	99	88
19	T	0.99	0.24	100	100	98
20	H	0.95	0.41	100	99	81
21	P	0.98	0.29	100	100	90
22	I	0.91	0.27	100	92	79
23	U	0.97	0.27	100	99	90
24	Z	0.83	0.38	98	88	60
25	Q	0.90	0.28	98	93	76
26	cat	0.93	0.45	100	98	79
27	see	0.93	0.53	100	100	71
28	red	0.90	0.37	98	94	74
29	to	0.97	0.44	100	100	88
30	big	0.93	0.46	100	98	79
31	work	0.95	0.51	100	100	79
32	book	0.96	0.47	100	100	86
33	eat	0.87	0.56	100	96	55
34	was	0.93	0.49	100	100	71
35	him	0.95	0.48	100	100	79
36	how	0.88	0.57	100	98	55
37	then	0.89	0.59	100	99	57
38	open	0.96	0.47	100	100	86
39	letter	0.94	0.45	100	98	81
40	jar	0.76	0.50	90	85	43

41	deep	0.89	0.56	100	99	57
42	even	0.81	0.50	98	87	52
43	spell	0.75	0.54	95	82	40
44	awake	0.69	0.61	93	80	24
45	block	0.89	0.51	100	95	67
46	size	0.84	0.65	100	95	45
47	weather	0.83	0.63	100	94	43
48	should	0.73	0.67	98	85	24
49	lip	0.89	0.57	100	96	64
50	finger	0.87	0.55	95	96	60
51	tray	0.79	0.62	100	91	36
52	felt	0.79	0.60	98	88	40
53	stalk	0.72	0.54	95	78	36
54	cliff	0.83	0.58	100	89	52
55	lame	0.78	0.49	93	85	48
56	struck	0.75	0.56	95	86	33
57	approve	0.72	0.71	100	85	17
58	plot	0.81	0.63	98	94	38
59	huge	0.41	0.57	79	40	5
60	quality	0.77	0.69	100	89	29
61	sour	0.54	0.43	76	55	29
62	imply	0.53	0.64	93	55	10
63	humidity	0.65	0.73	98	76	10
64	urge	0.37	0.54	69	35	7
65	bulk	0.59	0.66	90	68	7
66	exhaust	0.50	0.74	95	52	2
67	abuse	0.48	0.66	95	46	5
68	collapse	0.59	0.68	95	64	12
69	glutton	0.57	0.64	95	59	14
70	clarify	0.43	0.66	81	45	0
71	recession	0.55	0.67	98	59	5
72	threshold	0.47	0.59	83	51	2
73	horizon	0.44	0.63	83	44	5
74	residence	0.63	0.80	100	75	2
75	participate	0.60	0.75	98	71	2
76	quarantine	0.40	0.60	79	40	0
77	luxurious	0.39	0.64	81	38	0
78	rescinded	0.31	0.47	57	33	2
79	emphasis	0.47	0.72	93	47	0
80	aeronautic	0.48	0.70	88	52	0
81	intrigue	0.30	0.58	67	26	0
82	repugnant	0.29	0.57	69	24	0
83	putative	0.37	0.61	79	34	2
84	endeavor	0.36	0.62	86	29	0
85	heresy	0.42	0.70	93	38	0
86	discretionary	0.37	0.66	88	29	0
87	persevere	0.26	0.53	60	22	0
88	anomaly	0.44	0.68	88	45	0
89	rudimentary	0.45	0.75	93	44	0

90	miscreant	0.41	0.68	88	38	0
91	usurp	0.29	0.59	79	19	0
92	novice	0.37	0.66	83	33	0
93	audacious	0.24	0.58	67	14	0
94	mitosis	0.36	0.64	79	33	0
95	seismograph	0.29	0.58	76	20	0
96	spurious	0.31	0.66	88	19	0
97	idiosyncrasy	0.19	0.49	60	8	0
98	itinerary	0.26	0.56	69	18	0
99	pseudonym	0.17	0.43	45	12	0
100	aborigines	0.26	0.53	64	20	0

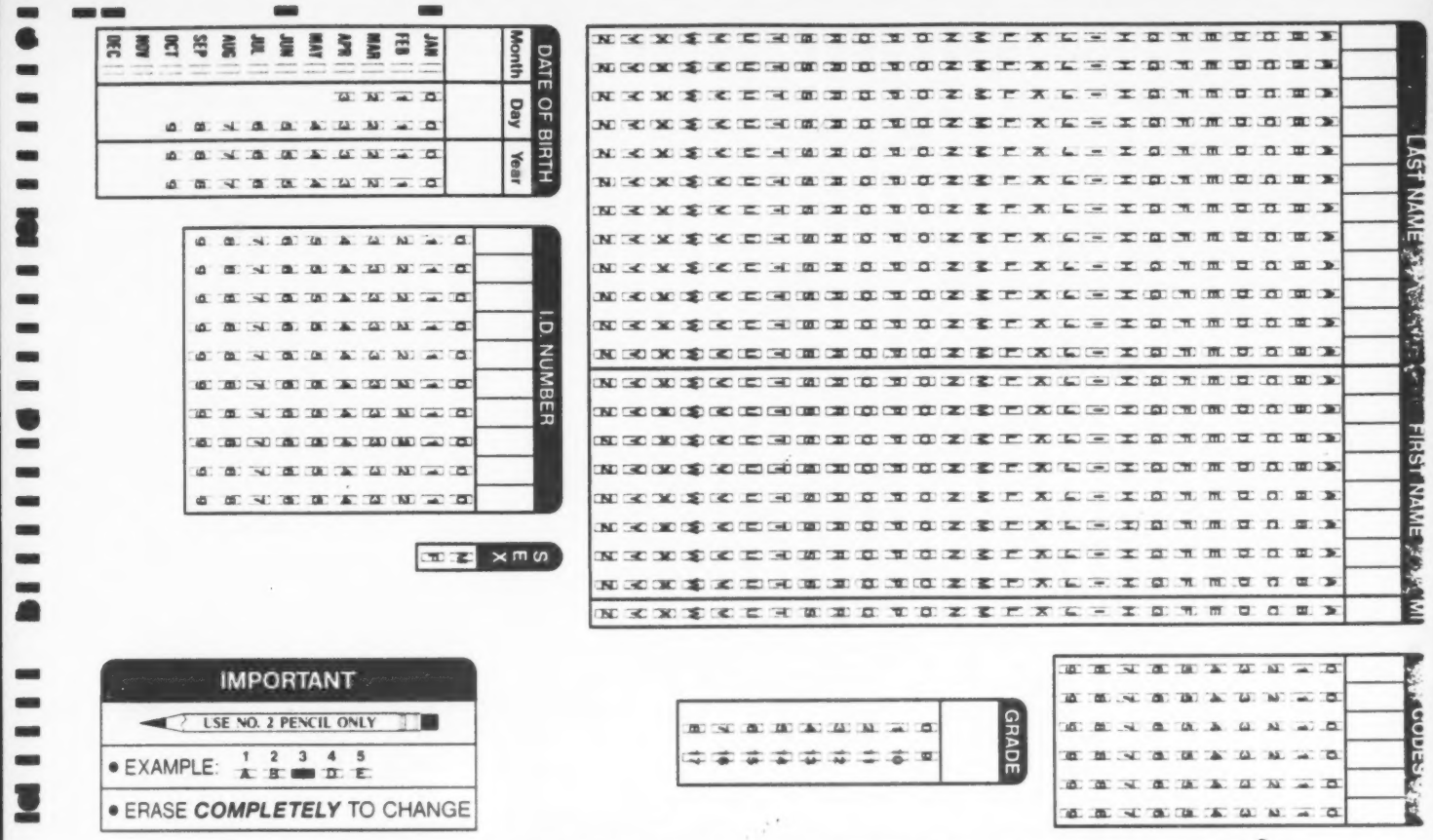
N=169
Mean is 69.272
Std Dev is 19.985

APPENDIX VII
BASIC ENGLISH SKILLS TEST (BEST)
Item Analysis

Item	ItemType	Difficulty	Discrimination	Upper 1/4	Middle 1/2	Lower 1/4
1	LastName	0.96	0.19	100	98	91
2	FirstName	1.00	0.00	100	100	100
3	Sex	0.88	0.46	100	98	61
4	Address	0.94	0.50	100	98	83
5	City	0.85	0.29	100	88	65
6	State	0.88	0.20	100	85	83
7	Zip	0.96	0.14	95	100	91
8	Birthday	0.93	0.31	95	98	83
9	Date	0.87	0.35	95	95	65
10	Signature	0.88	0.46	100	93	70
11	Circle date	0.92	0.40	100	95	78
12	Circle date	0.94	0.33	100	95	87
13	Cost	0.94	0.26	100	95	87
14	Cost	0.95	0.13	95	98	91
15	per lb.	0.67	0.51	95	68	39
16	Date	0.88	0.45	100	93	70
17	Year	0.94	0.52	100	100	78
18	FirstName	0.92	0.36	100	93	83
19	LastName	0.89	0.38	100	90	78
20	Amount	0.87	0.19	100	80	87
21	Four	0.79	0.44	95	83	57
22	hundred	0.68	0.40	90	73	39
23	twenty	0.67	0.35	80	73	43
24	checkrent	0.40	0.24	60	34	35

25	signature	0.73	0.47	100	73	48
26	return	0.85	0.51	100	93	57
27	address	0.81	0.66	100	93	43
28	street	0.73	0.50	90	85	35
29	city	0.77	0.63	100	88	39
30	zip	0.79	0.63	100	90	39
31	letter	0.90	0.54	100	95	74
32	address	0.79	0.64	95	90	43
33	city	0.69	0.50	90	80	30
34	state	0.93	0.49	100	98	78
35	zip	0.93	0.44	95	100	78
36	telephone	0.88	0.38	100	90	74
37	doctor ofc.	0.43	0.50	90	34	17
38	must	0.60	0.51	90	66	22
39	driving	0.69	0.56	100	80	22
40	to	0.51	0.41	90	51	17
41	another	0.52	0.32	75	56	26
42	to	0.65	0.56	95	68	35
43	years	0.68	0.55	95	78	26
44	drinking	0.37	0.38	60	37	17
45	accidents	0.68	0.49	95	68	43
46	drive	0.60	0.47	90	63	26
47	time close	0.79	0.34	95	80	61
48	time open	0.90	0.42	100	95	74
49	hours open	0.74	0.57	100	80	39
50	kind/type	0.57	0.53	85	61	26
51	truck	0.58	0.42	70	71	26
52	before	0.61	0.64	90	71	17
53	aheadbefor	0.62	0.76	100	76	4
54	who?	0.81	0.46	95	90	52
55	When?	0.63	0.48	90	68	30
56	What?	0.50	0.34	80	44	35
57	note	0.65	0.56	100	66	35
58	dinner	0.46	0.56	90	44	13
59	time	0.54	0.44	85	51	30
60	place	0.36	0.41	65	37	9

N=84
Mean= 44.881
Std Dev = 10.459



SCANTRON GENERAL PURPOSE ANSWER SHEET

1 A B C D E	16 A B C D E	31 A B C D E	46 A B C D E	61 A B C D E	76 A B C D E	91 A B C D E
2 A B C D E	17 A B C D E	32 A B C D E	47 A B C D E	62 A B C D E	77 A B C D E	92 A B C D E
3 A B C D E	18 A B C D E	33 A B C D E	48 A B C D E	63 A B C D E	78 A B C D E	93 A B C D E
4 A B C D E	19 A B C D E	34 A B C D E	49 A B C D E	64 A B C D E	79 A B C D E	94 A B C D E
5 A B C D E	20 A B C D E	35 A B C D E	50 A B C D E	65 A B C D E	80 A B C D E	95 A B C D E
6 A B C D E	21 A B C D E	36 A B C D E	51 A B C D E	66 A B C D E	81 A B C D E	96 A B C D E
7 A B C D E	22 A B C D E	37 A B C D E	52 A B C D E	67 A B C D E	82 A B C D E	97 A B C D E
8 A B C D E	23 A B C D E	38 A B C D E	53 A B C D E	68 A B C D E	83 A B C D E	98 A B C D E
9 A B C D E	24 A B C D E	39 A B C D E	54 A B C D E	69 A B C D E	84 A B C D E	99 A B C D E
10 A B C D E	25 A B C D E	40 A B C D E	55 A B C D E	70 A B C D E	85 A B C D E	100 A B C D E
11 A B C D E	26 A B C D E	41 A B C D E	56 A B C D E	71 A B C D E	86 A B C D E	
12 A B C D E	27 A B C D E	42 A B C D E	57 A B C D E	72 A B C D E	87 A B C D E	
13 A B C D E	28 A B C D E	43 A B C D E	58 A B C D E	73 A B C D E	88 A B C D E	
14 A B C D E	29 A B C D E	44 A B C D E	59 A B C D E	74 A B C D E	89 A B C D E	
15 A B C D E	30 A B C D E	45 A B C D E	60 A B C D E	75 A B C D E	90 A B C D E	

QUESTIONS 10 THROUGH 250 CONTINUE ON THE OTHER SIDE

SCANTRON® FORM NO. F-262 © SCANTRON CORPORATION 1988 ALL RIGHTS RESERVED 4888-C988-5